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The Builder

AN

ILLUSTRATED WEEKLY MAGAZINE

FOR THE

ARCHITECT, ENGINEER, ARCHÆOLOGIST, CONSTRUCTOR, SANITARY REFORMER, AND ART-LOVER.

CONDUCTED BY

H. H. STATHAM,

FELLOW OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

"Every man's proper mansion-house, and home, being the theater of his hospitality, the seate of selfe-fruition, the comfortablest part of his own life, the noblest of his sonne's inheritance, a kinde of private princedome, nay, to the possessors thereof, an epitome of the whole world, may well deserve, by these attributes, according to the degree of the master, to be decently and delightfully adorned."

"Architecture can want no commendation, where there are noble men, or noble mindes."—SIR HENRY WOTTON.

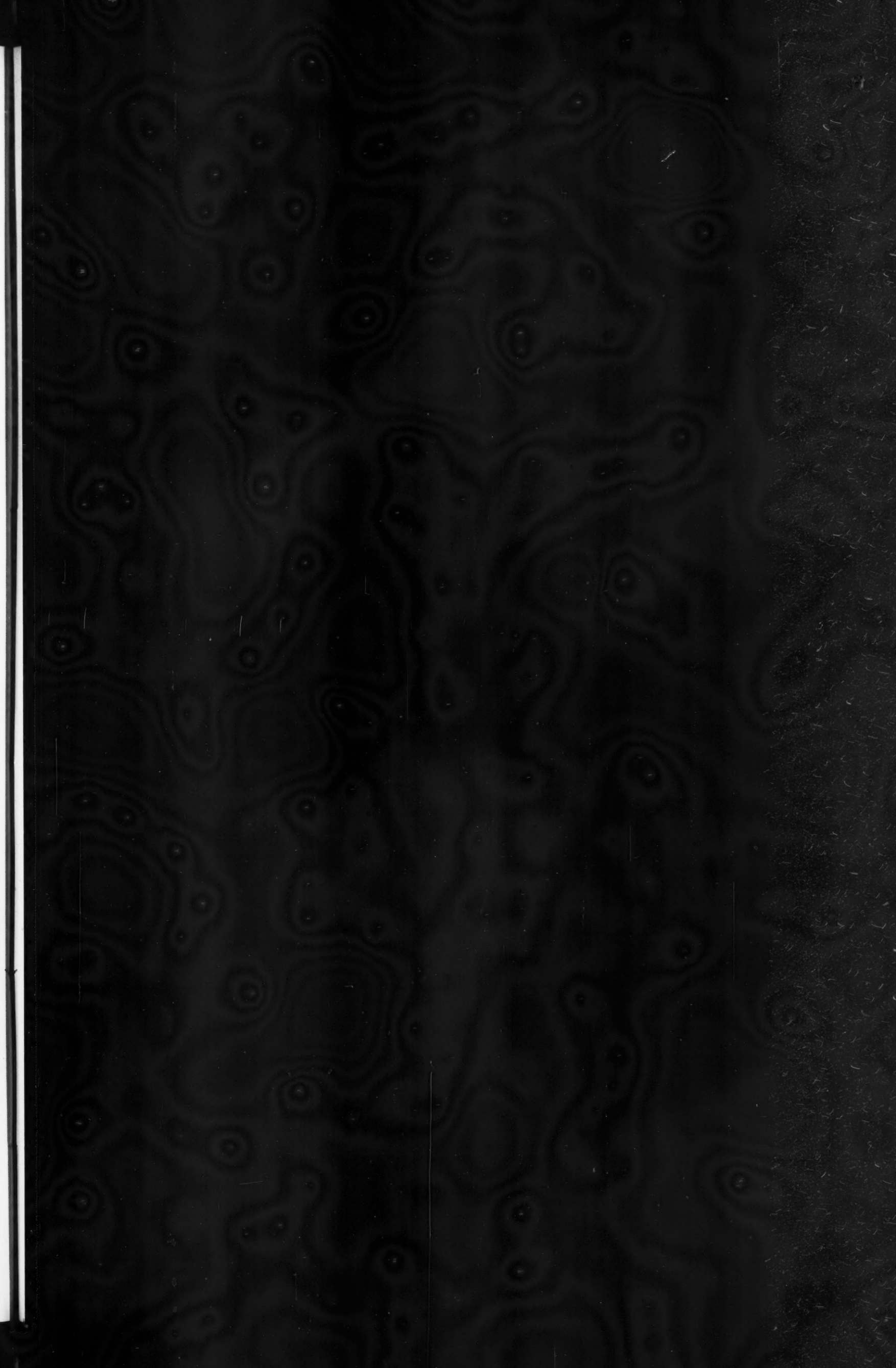
"Our English word TO BUILD is the Anglo-Saxon Bylðan, to confirm, to establish, to make firm and sure and fast, to consolidate, to strengthen; and is applicable to all other things as well as to dwelling-places."—DIVERSIONS OF PURLEY.

"Always be ready to speak your mind, and a base man will avoid you."—WILLIAM BLAKE.

VOLUME LVI.—JANUARY TO JUNE, 1889.

OFFICE: No. 46, CATHERINE STREET, COVENT GARDEN, LONDON, W.C.

Printed by
The Hansard Publishing Union, Lim.,
Great Queen St., London, W.C.



[Vol. LVI., No. 2393.—Saturday, January 5, 1889.]

The Builder

ILLUSTRATIONS.

View of Paris in the time of Francis I.—Drawn by H. W. Brewer ..... *Extra-Large Photo-Litho*
The Imperial Institute.—Mr. T. E. Collcutt, F.R.I.B.A., Architect ..... *Four-Page Photo-Litho.*
The Gambetta Monument, Paris.—M. Boileau, Architect; M. Aubé, Sculptor (Engraved by J. D. Cooper) ..... *Double-Page Wood Engraving.*
Lichfield Cathedral, West Front.—From a Drawing by Mr. Arnold B. Mitchell ..... *Double-Page Ink-Photo.*
The Clarendon Building, Oxford.—From a Drawing by Mr. John Fulleylove ..... *Double-Page Ink-Photo.*

Blocks in Text.

Key-Plan of View of Paris *temp.* Francis I. ..... *Page* 10
Memorial Brass to the late Archbishop Trench, Christ Church Cathedral, Dublin 11
Two American Lodges.—McKim, Mead, & White, and H. H. Richardson, Architects 12
A New York Residence.—Messrs. McKim, Mead, & White, Architects 13
A Mantel in a New York House.—Designed by Mr. Louis C. Tiffany 14
Boyle's Improved Air-Inlets 14

CONTENTS.

Paris in the Time of Francis I. 1
To Lovers of Greek Architecture: An Appeal 5
Illustrations of Oxford 6
Notes 7
The English Iron Trade in 1888 8
Letter from Paris 9
Paris in the Time of Francis I. 10
The Imperial Institute 10
The Monument to Gambetta, Paris 10
Lichfield Cathedral: West Front 10
The Clarendon Building, Oxford 11
Memorial Brass to the Late Archbishop Trench 11
The Slate Trade in 1888 11
Royal Academy: Admissions to the Architectural School 11
Two American Lodges.. 12
A New York Mansion 12
Competitions 13
Liverpool Architectural Society 13
A Mantel in a New York House 14
Boyle's Improved Air-Inlets 14
Discharge of Manufacturing Refuse into Sewers: Interesting to Galvanisers 14
"Church-Building News :Epsom' 15
Electric Lighting News 15
The Student's Column: Town Drainage.—I. 15
Recent Patents 16
Meetings 16
The Subsidences in Cheshire 16
Miscellanea 16
Prices Current of Materials 19

Paris in the time of Francis I.

IN the first number of the *Builder* for the year 1888 we gave our readers a view of "London in the time of Henry VIII.," and we now, as a companion picture, present them with a view of the capital of the other hero of the "Field of the Cloth of Gold." Our view represents the City of Paris, as it appeared during the closing years of the reign of Francis I., and, like that of London, it is a bird's-eye view taken from a point nearly due east of the city.

When we first visited Paris, forty years ago, many indications existed of the old city and of the buildings of its famous university, which have since disappeared. Among these we may mention the old Commandatory of St. John Lateran, portions of the monastery of the Jacobins or Dominicans, gateways and other fragments of the numerous colleges, chapels, churches, and monasteries which helped to make the Paris of the Middle Ages one of the most remarkable cities of the world. Mediæval Paris must have been a marvellously picturesque city, and fortunately so many plans, drawings, and engravings of it are in existence, that it is possible, with the assistance of what still remains, to obtain a fair idea not only of its general appearance, but also of the individual buildings which formed such grand features of the ancient city. This task is rendered less difficult than is usually the case by the fact that French antiquaries and archæological writers of later times have produced such a number of carefully-written and profusely-illustrated books upon the subject, and that there are also numerous old manuscripts in public libraries, not alone in France, but elsewhere, which contain views of Paris dating as far back as the fourteenth and fifteenth centuries; amongst others a very beautiful breviary has a most exquisite representation of Our Lord's triumphal entry into Jerusalem, the background of which represents Paris at the end of the fifteenth century. Another very interesting manuscript picture is that which depicts the reception of Isabella of Bavaria, wife of Charles VI., into the French capital. The city is also represented in the backgrounds of numerous old pictures and tapestries. When we come to printed works the early views are very numerous. Amongst them are those of Braun, 1530; of Sebastian Munster, dated "MD." but supposed not to be *really* earlier than 1550; Olivier Truschet's view, 1550; Belleforest's view, about 1573; and the very fine drawing, called "Plan de Vassalieu," 1609. There is also a grand plan worked upon tapestry which was formerly at the Hôtel de Ville, and is supposed to date from 1537.

For views of individual buildings, there are several remarkable collections by Du Cerceau, Van Mealen, Merian, Cohen, and an unnamed collection which would appear to date from the earlier part of the seventeenth century. There are also many charming etchings of great artistic merit by Israel Silvester, and very many others of less artistic merit, but still topographically interesting.

Amongst the writers of the last century and of the commencement of the present, we should mention the names of Le Beuf, who, in 1754, published his "Histoir de la Ville et de tout le Diocese de Paris," in fifteen volumes, and somewhat earlier his "Dessertations sur l'histoir ecclesiastique et civil de Paris;" Germain Brice, who about the same time wrote his "Description de la Ville de Paris," in four volumes; and Millin de Grandmaison, who in his "Antiquités National" (five vols. Paris, 1795-1799) gives numerous views and descriptions of monasteries and churches which have ceased to exist. At the commencement of this century numerous works upon the subject were also produced. We may expressly mention "Tableau Historique et Pittoresque de Paris," par M**** (Paris, 1808), and "Histoir Dulaure et St. Victor de Paris," 1818-1820. During our own time several magnificent works on the subject have proceeded from the French press. In 1835 Mr. Albert Lenoir commenced "Le Statistique Monumental de Paris," illustrated by most careful plans, elevations, sections, &c., contained in two large folio volumes. But these have even been surpassed by a work called "Paris à travers les Ages," by Fournier et Cousin, with drawings by Hoffbauer (Paris, 1875-82). It is, perhaps, not too much to say that this is the most splendid work of its class that we have ever seen. It is illustrated in the most sumptuous manner by steel engravings, woodcuts, chromo-lithographs, reproductions of ancient plans and drawings, designs, restorations, historical subjects, &c. A very ingenious method has been adopted to show the modern condition of the localities represented: the tissue-paper *garde* before each ancient plan has the lines of the modern streets indicated upon it. There are, of course, many excellent, but less ambitious, books upon the archæology of Paris.

A most valuable little book upon the subject is the "Itinéraire Archéologique" of Guilihermy. The charming sketches of Martial, etched by A. P., of bits of Old Paris, are also most valuable, and much

information may be gained from Noveaux and Asselineau's "Reproductions des Monuments q'n'existant plus: 1839," and Gordon de Grenoillac's "Paris à travers les Siecles," and many other works. One cannot help being struck by the fact that even at the very period when the ancient buildings were in course of destruction, the French artists and antiquaries were hard at work sketching, drawing, and measuring them, and, what is more remarkable still, the Government was advancing funds for their publication. How different has been the action of our own Government in this respect. Here our artists or antiquaries receive no assistance in such arduous tasks, and are entirely dependant upon the public.

A careful study of the existing remains of the ancient city, and notes of those which have disappeared since 1850, together with the materials mentioned above, have been combined to produce the view published in this number. Paris in the time of Francis I., and, in fact, during the whole of the Middle Ages, consisted of three distinct portions,—the large island in the middle of the Seine, called "La Cité"; the part on the north bank of the Seine, called "La Ville"; and that on the south bank, called "L'Université." The three may be typified by "The Church," "The State," and "The Arts," or "Piety," "Freedom," and "Learning." "The Cité" was the *locale* of the great Cathedral, the Bishop's* Palace, the Hôtel Dieu, and the earliest churches and monasteries; in fact, the whole of the Eastern portion of the island was purely ecclesiastical, for, in addition to the Cathedral and Bishop's Palace, the vast Hôtel Dieu, with its three chapels, convent, and halls, occupied a space nearly 500 ft. long to the south, while to the north and east the immense enclosure called the Cloître de Notre Dame extended, enclosed by walls and entered by gates; it formed a regular ecclesiastical city, with its numerous streets of houses all occupied by the canons, clergy, and other members of the immense establishment attached to the cathedral of Notre Dame. Immediately to the east of the Cathedral was the very ancient Priory of St. Denis du Pas, with its diminutive church dating from the tenth century, with a crypt beneath it which was still more ancient, possibly of the sixth century. Like all the earliest churches in Paris, it was square-ended, and it is by no means improbable that the English, after all, got their square east-end from the French, as the Saxon churches were apsidal. Within the Cloître de Notre Dame were also the churches of St. Pierre aux Bœuf's, St. Jean le Rond, and St. Aignan.

The old Bishop's Palace was erected by Maurice de Sully in the twelfth century, but was for the most part rebuilt in the eighteenth century; the chapel, however, remained until the outrageous destruction of the building by the mob in 1830. There are very numerous old engravings of the Bishop's Palace, Hôtel Dieu, and of the numerous churches which formerly existed on the island; there would appear to have been as many as eighteen of them in the time of the Revolution. They were for the most part irregularly-planned structures, though two or three of them were more important. The ancient church of St. Bartelmi, which formerly belonged to a priory, was a large early building; the church of the Barnabite Priory was also fairly large, and St. Généviève des Ardents and St. Christopher were respectable parish churches. The priory church of St. Denis de la Chartre was a very early building, consisting of an aisleless nave and a square-ended chancel. The west end of the island was and still is occupied by the Palace of St. Louis, a magnificent structure, of which now little remains except the exquisite Ste. Chapelle, and four towers facing the Seine. The Salle des Pas Perdus occupies the site of the great hall of the Palace, which was burnt in 1618, and of which Du Cerceau has left some excellent drawings. It consisted of two wide naves, each covered with a barrel vault of wood, with tie-beams and king-post, and was lit by two-light windows. The Cour du Mai, to the right of the chapel, was also a beautiful thirteenth-century building, but the Cour des Compts, to its south, was elaborate late Flamboyant: it was, however, burnt down in 1737, but is represented by engravings in the works of Germain Brice, and others.

The "Cité" was connected by four bridges with "La Ville" and "L'Université." The latter was, next to the island, the most thickly-populated portion of Paris, and abounded in churches, monasteries, and colleges. Its parochial churches were singularly fine buildings, and two of them have escaped to our own days,—St. Severin and St. Étienne du Mont. St. Severin, with its double aisles, lofty clearstory, numerous chapels, flying buttresses, and beautiful thirteenth-century tower, is a most interesting example of a French parish church: it is a *mélange* of every style, from that of the thirteenth down to the eighteenth century.

St. Étienne du Mont did not appear as we now see it in Francis I.'s days. The choir and transepts were possibly completed, but, if so, they have evidently been very much altered since that period; the nave was not even commenced, and the tower was considerably less lofty.

There were, however, many other interesting parish churches, which have now entirely disappeared; that of St. Étienne des Grecs, or more properly Des Grés (Ecclesia St. Stephani ad Gradus), appears to have been the most ancient, though, judging from old prints, it does not look earlier than the fourteenth century. It consisted of a nave and aisles with an apsidal chancel and lofty tower, covered by a wedge-shaped roof. It seems to have possessed a very magnificent double doorway. The parish church of St. Benoit, which in early times belonged to the order of St. Benedict, is very carefully delineated in Lenoir's "Statistique Monumental." It was chiefly Flamboyant, not unlike St. Severin, only smaller and without a tower. The last vestiges of it were only pulled down about forty years back. St. André des Arts was a most beautiful Flamboyant church, consisting of a long nave and aisles lined with chapels, with its roof supported by bold flying-buttresses; it had a lofty tower near the west end, not unlike St. Jacques la Boucherie. There is an interesting engraving showing it in course of destruction.

The churches of St. Hilaire, St. Côsme (Cosmas and Damian), and St. Nicholas du Chardonet, were small but interesting buildings. The monastic churches in this quarter of Paris were of great interest, and considerable remains of them are even now in existence. The first which we must notice is the great Abbey of St. Génévieve, the church of which adjoined St. Étienne Du Mont; in fact, in earlier times, St. Étienne could only be entered through the Abbey Church. Lenoir, in his "Statisque Monumental," has left us such a complete series of plans, elevations, and sections of the old Abbey Church, that we know exactly what it was like. It consisted of a long nave and aisles of the transition period, covered externally by one vast roof, a short chancel terminating in an apse, a chevet with a very ancient crypt beneath it. This chancel was Norman in style, and considerably lower than the nave. There was a lofty tower, part of which still exists to the south-east, crowned by a spire. Internally, the whole was vaulted in a somewhat ponderous manner, the ritual choir projected far into the nave; it possessed neither transepts, clearstory, nor triforium.

Although we are not inclined to endorse Germain Brice's condemnation of the building, yet it must have been a more curious than beautiful church. The remarkably handsome thirteenth-century refectory and portions of the cloisters are still preserved in the Elysée, together with the more modern buildings of the monastery; it belonged to the Order of the Canons Regular. The beautiful little Priory Church of St. Julien le Pauvre still exists, though its nave is shorn of half its length; the choir is a most valuable example of the First Pointed style.*

None of the monastic buildings are now in existence, their site being covered by the huge buildings of the Hôtel Dieu.

The great church of the "Jacobins" (Dominicans), in the Rue St. Jacques, was a very remarkable structure. It consisted of two great naves, united by an arcade down the centre. A large chapel, attached to it at the north-east, made its eastern end present two large gables; it was square-ended, and covered internally with plain wooden roofs. The style was Early Geometrical, though a number of Flamboyant chapels had been added along the sides.

The great refectory was divided into two parts, and, to use Viollet-le-Duc's expression, was placed *au cheval* across the city wall, the part forming the reception-hall for a laity being outside the wall and the refectory of the monks within. Remains of the very handsome gateway leading to the church were in existence not many years ago, and numerous views of the buildings are to be found in the works previously mentioned.

The great Church and Monastery of the Augustinians stood upon the quay of the same name, and, judging from the drawings in Millin de Grandmaison's work, it must have been a single-span church of immense length, some 250 ft. long, and covered internally by a tie-beam and king-post roof; the style was Early Geometric. Both this and the Dominican church were full of magnificent monuments. The principal Church of the Carmelites, which was situated in the Place Maubert, on the site now occupied by a market, was also a single-span church with a timber roof, but had a very large chapel to the north-west, entered by a magnificent doorway at its eastern end. It was about 190 ft. long. The cloisters, which were of the same date as the church, were large and spacious, though rather plain. The whole building is most carefully illustrated by Lenoir.

Like the other buildings of the Mendicant Orders in Paris, the Carmelite Church had neither tower nor spire, but simply a *flêche*, and was very plain as to its architecture.

The Cordeliers had an immense church and monastery close to the wall on the west side of the University quarter. Unfortunately, it was burnt down during the reign of Francis I. It was erected in the year 1289, and appears to have partaken of the same character as those of the Augustinians and Carmelites; in fact, these vast conventual churches depended for their effect far more upon their size than upon their architectural detail. They were, in fact, great cheap churches, intended to hold immense congregations, and preaching formed a very important portion of the services held within them, and their very plainness and cheapness gave them a remarkable and striking character. Such buildings go to show that the architects of the thirteenth and fourteenth centuries were quite as skilful in dealing with churches where only limited funds were attainable, as they were in erecting sumptuous cathedrals. But they had learned this lesson, that a cheap building, in order to be good, must be extremely simple and plainly treated. And we find that the only ornamentation of any kind in which they indulged was window tracery, and sometimes a rather elaborate doorway, which was, however, nearly always a later addition. Undoubtedly, in later times, these churches became filled with costly furniture, monuments, stained-glass, &c.; but these formed no part of the original intention of their architects.

Of the buildings which were associated with the magnificent mediæval University of Paris little, alas, now remains; the great college of the Sorbonne has been entirely rebuilt in later times, and although here and there an ancient gateway or turret may be discovered down some courtyard or narrow street, not one of the forty colleges which were in existence in

* Paris was not erected into an Archbishopric until the time of Louis XIV.

* All who take an interest in Mediæval architecture will learn with regret that the destruction of this most valuable example of thirteenth century work is contemplated.

the time of Francis I. remains at the present day. The charming little chapel of the college of St. Jean de Beauvais, and the vast refectory of the college of the Bernardines, give us some faint idea of the Mediæval glories of the grand old University at which Dante, S. Dominic, Gherson, Erasmus, Calvin, St. Ignatius Loyola, St. Francis Xavier, and St. Vincent de Paul were students; but it is impossible, without consulting ancient drawings and documents, to obtain any idea of its magnificence. In its palmy days it must have quite equalled Oxford or Cambridge in the beauty of its buildings. The most magnificent college was undoubtedly that of the Bernadines, and, fortunately, the illustrations of this building are both numerous and reliable. Lenoir gives drawings of portions of the chapel, which remained to his day: and the grand refectory and dormitory had not then been mutilated to convert them into a barrack. This college was founded by an Englishman, Stephen Lexington, Abbot of Cluny, but afterwards passed into the hands of the Cistercian order, and became the college at which members of that body attended who wished to obtain degrees from the oldest and most dignified university in Europe. The buildings were of immense dimensions. The chapel, which was commenced in 1338, at the expense of Pope Benedict XII., was to Paris what King's College Chapel is to Cambridge. It consisted of a vast and lofty nave and aisles, with twenty-nine side-chapels, and the whole was vaulted in stone, and supported by magnificent flying buttresses. It had a square east end, and no apse, but the writer in "Tableau Historique et Picturesque" says that "the chevet* is lighted by windows of prodigious length, full of the most magnificent stained glass." There was a small tower at the east end, adjoining the south aisle, and a lofty *flêche* arose from the roof of the nave. Unfortunately, this noble chapel was never completed, for although Benedict XII. left funds for that purpose in his will, the money was stolen on its way to Paris, and the three or four western bays were never, consequently, vaulted in. Even Germain Brice, who, in common with most writers of his date, abuses Gothic architecture, says "this was a veritable *chef d'œuvre*," and he greatly praises the lightness and beauty of its vaulting. The length of this chapel was about 280 ft., and its width close upon 100 ft. The chapter-house, which was at right angles to the chapel, at the east end, was a most beautiful apartment; its vaulting, composed of nine bays, was supported upon four slender columns. The refectory and dormitory were on the same vast scale as the chapel; the former was 250 ft. long, vaulted, and divided into nave and aisles by two rows of arches. The dormitory above it was the same size, but covered by a great open timber roof. This building still remains, though sadly mutilated; in its original condition it must have been surpassed by scarcely any other building of its class erected during the middle ages. There was an immense court-yard, enclosed by the church on its north side, the refectory and chapter-house on its east; unfortunately, the buildings to the south and west and the great cloister had been destroyed during the seventeenth or eighteenth century; if, however, they were as magnificent as the chapel and refectory, this court must have surpassed the Quad at Trinity or the Tom Quad at Christchurch, and the whole building must have been the most splendid collegiate edifice in Europe.

Three ancient colleges adjoined that of the Bernadines, those of St. Michael, "Des Bons Enfants," and "Cardinal Lemoine." The first-named had a pretty gateway, which was in existence a few years back; the second is chiefly celebrated from the fact of Vincent de Paul having been some years its rector; and the third possessed a very pretty chapel, which is illustrated in "Tableau Historique." The "College de Cluny," which was situated near the Sorbonne, was a building of very great beauty. Its chapel was, as Guilhermy in his "Itineraire Archéologique" points out, almost a counterpart of the Ste. Chapelle. It had the same lofty pinnacled buttresses, sculptured cornices, and long windows. Internally it was vaulted. Attached to the chapel was a beautiful cloister, and the refectory and other buildings were equally admirable in design. There are many illustrations of this edifice, and the etchings of Martial represent its ruins after the Revolution, beautiful even in their decay.

Of the Colleges de Navarre and Montaigu, there are still some considerable remains. They would appear to have been plain but large fifteenth century buildings. Fragments may still be traced of several others, but the most valuable relic still preserved of the University buildings of Paris is the elegant Chapel of the College de Beauvais. It is a smaller and plainer edition of the Ste. Chapelle, with a wooden barrel roof internally. The *flêche* is excellently designed, and the window tracery is of the best period of Geometrical work. At the time of the recent expulsion of the religious orders from Paris, this building was in the possession of the Dominican order. It is sincerely to be hoped that this most valuable structure will be carefully preserved.

A most interesting building called "The Commandatory of St. John Lateran" was in existence when we first visited Paris. It consisted of a large chapel of twelfth or thirteenth century work, with a remarkably beautiful and rich Decorated chantry chapel attached to its north side. This chantry chapel was lit by four-light windows, containing very English-looking tracery. There was a great isolated tower near the chapel, and the remains of a large crypt or hall.

The Musée de Cluny, originally the Hôtel de Cluny, is a most charming example of fifteenth century Domestic architecture, and is, alas! the only remaining building of its class left in this part of Paris, though in the University quarter there were formerly many mansions of the same description,—the Hôtel St. Denis, the Grand Hôtel de Nesle, the Petit Hôtel de Nesle, the "Château Gaillard," the Hôtel de Nesmond, &c., all of which have now vanished.

"L'Université" was formerly surrounded by walls, defended by towers, and entered by gates erected by Philip Augustus, with a moat or fosse. Near Le Mont de St. Geneviève the fosse assumed the appearance of a deep ravine.

The Tour de Nesle, at the extreme west, had a chain attached to it which extended across the river, the opposite end being affixed to the "Tour de Grand Prévôt," near the Louvre. A fortified structure, called La petit Chatelet, defended the "Petit pont," and attached to the Port St. Bernard, was another castellated structure, called "La Tournelle," which is associated with the history of St. Vincent de Paul, who prevailed upon the king to have the galley-slaves, who were formerly shut up in the dungeons of the Chatelet, removed to this building, and it was here that he used to visit them from the neighbouring College Des Bons Enfants, of which he was rector, and offer the consolations of religion to these unfortunate criminals.

A chain was suspended from La Tournelle to a tower on the Ile de Notre Dame, so called because it was covered with gardens which belonged to the Chapter of the Cathedral.* East of the Ile de Notre Dame was another island, called the "Ile des Vaches." The stream which separated the two is now filled up. The two united are now known as the Ile St. Louis.

The portion of Paris called "La Ville" is on the south bank of the Seine, and was, in the time of which we are speaking, divided into two parts, that nearest the back of the river being enclosed by a wall erected by Philip Augustus, and the outer portion covering the space contained between the wall of Philip Augustus and that erected by Charles V. The eastern portion, however, which extended to the bank of the Seine, was called the Marais. The old Louvre of Charles V. stood between the two walls at the extreme west of La Ville. In the time of Francis I. the building was in a transition state, consisting partly of towers of the old feudal castle, and in part of the superb Renaissance palace which was designed to supersede it. Almost adjoining the Louvre to the east was the stately Hôtel de Bourbon, which, together with the whole of this portion of Paris, has been admirably illustrated in "Paris à travers les Ages."

Almost touching the Louvre were the two small churches of St. Thomas and St. Nicholas, and near at hand were the hospital called the "Quinze vingt" with its curious church, and the church of St. Honoré, which possessed a lofty tower and spire, and which, though no longer in existence, has given its name to the district. The stately church of St. Germain L'Auxerrois still exists, though not in the condition described by Germain Brice, who *complains* that "its interior was rendered almost dark by stained-glass and ancient wall paintings." Its ancient cloister has also ceased to exist, though when we first visited Paris a charming angle oriel was to be seen, which probably formed a portion of this building. The great Church of St. Eustache is shown in our view as a mass of scaffolding. It was only commenced in the year 1530. To the west of it will be noticed the ancient Church of the Innocents, with its vast cloister surrounding the cemetery of the same name. Lenoir gives a number of most interesting views of this church and cemetery, which was one of the most picturesque objects in ancient Paris, and although sanitary authorities may rejoice over its removal, yet the artist has lost a series of unrivalled subjects for his pencil; such a combination of Gothic arcades, chantry chapels, monumental crosses, ancient tombs, picturesque gables, fresco paintings, votive tablets, and sculpture was not to be found anywhere else in Europe. The church itself was a remarkably fine thirteenth century structure, surrounded by chapels, and its vaulting was supported by noble flying buttresses. Almost adjoining the cloisters stood the interesting church of St. Opportune; and slightly to the north-east two other beautiful churches, which have now entirely disappeared. One was called St. Sepulchre, and possessed a very fine western portal, of which many drawings are to be found; the other was the cruciform Priory Church of St. Magliore, which is described by Germain Brice as a lofty, vaulted building. The two churches of St. Leu and St. Mirri, or Mederic, have fortunately escaped the general destruction which seems to have reigned in this neighbourhood in the time of the Revolution and afterwards. The interesting church of St. Jacques l'Hôpital, close to the Port St. Denis, has, however, been less fortunate, which is much to be regretted, as it was a very characteristic building; numerous illustrations of it exist, and they show an edifice consisting of a nave with gable aisles, a very large east window, and a singularly magnificent double doorway at the east end of the south aisle. A large hospital seems to have been attached to this church. Outside the old Port St. Denis, and between it and the gate of the same name, built in the reign of Charles V., stood the stately church of St. Sauveur. It would appear from the old drawings to have been a very lofty building, with a tall tower, and consisted of a nave and aisles, with a clearstory, supported by flying buttresses, with a chevet arranged in a very peculiar manner, for while the choir was apsidal, the chapels round it were square, and presented five gables towards the street, the centre of which was pierced by a large doorway. This is almost the only Mediæval example we know of the principal entrance to a church being immediately at the back of the high altar.

Returning again to the banks of the Seine, we should have found at the time of Francis I.

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* The word "chevet" in French is frequently used to signify the east end of a church, whether square or apsidal.

* The Cité, or great island, upon which the Cathedral stands, is sometimes called the Ile de Notre Dame, but this is an error. The Ile de Notre Dame was the second island, not the great one.

close to the Pont du Change, a very grim-looking fortress with embattled walls and tournelles. This was the great Châtelet; its sinister reputation may be guessed by the fact that the street leading to it bore the ominous title of "Le Val de Misère;" it is excellently illustrated in "Paris à Travers les Ages." Two curious little churches stood in the immediate neighbourhood of the Châtelet; they were called St. Bon and St. Lefroi. The vast butchers' market and the "Grenier de Sel" also helped to crowd up this closely-built district. The great church of St. Jacques la Boucherie, the largest parochial building in Paris, with its two naves, four aisles, double chevet, and seventeen side-chapels, has disappeared, with the exception of its stately and magnificent tower, which remains as a protest against the barbarous destruction which has left it the sole relic of the great church.

The churches of St. Ives, St. Avoie, St. Croix, the noble parochial church of St. Jean le Greve, with its two towers, and the Hospital of the Holy Ghost, are among the victims of the destruction of the last century.

The beautiful Hôtel de Ville, which was burnt down by the Communists in 1870, was in course of erection during the latter part of the reign of Francis I. The noble church of St. Gervais, with elaborate flying buttresses and windows rich in tracery and filled with stained glass, has escaped, but the hospital, which stood near it, has disappeared. The church of Notre Dame De Blancmanteau,—so called because it was built by an Order of that name, though it afterwards passed into the hands of an order called the "Williamites,"—was rebuilt in the eighteenth century. The old church appears to have been a lofty structure. Judging from the 1609 plan, a very tall flèche and two large stone turrets flanking the choir were among its most striking features. Close to the wall of the city stood the chapel of Notre Dame and St. Claud de Braque, with the old Hôtel de Braque attached to it. Just outside the wall of Philip Augustus stood the immense Hôtel de Clisson, built by the celebrated Constable of that name, which in later times became known as the Hôtel "des Graces" and Hôtel "de Guise." A gateway, flanked by large circular towers, still exists, incorporated in the Hôtel Soubise. Another historical mansion, the Hôtel Barbette, was for some time the residence of Isabella of Bavaria, the unhappy queen of Charles VI. The murder of the Duke of Orleans upon leaving this mansion caused this wretched queen to be suspected of the murder. Another magnificent mansion, the Hôtel de la Tremouille, erected from the designs of the celebrated Frère Jaconde, stood in the Rue des Bourdonnais. It was pulled down about fifty years ago.* Close to the Port St. Martin, in the wall of Charles VI., are still to be seen the church and refectory of the Priory of St. Martin des Champs, converted into the institute Des Arts et Métiers. The church is an interesting structure, consisting of a single-span nave covered by a wood barrel roof, dating from the latter part of the thirteenth century. The choir is much earlier, and has a remarkable chevet with a trilobe eastern chapel. The great feature, however, of this monastery is the refectory, the vaulting of which springs from a row of slender, graceful columns down the centre of the building. This beautiful refectory is said to be the work of Pierre de Montreau, the eminent architect of the Ste. Chapelle, who also designed the elegant Lady Chapel, now destroyed, but a plan of which is given by Viollet-le-Duc. Another large, isolated chapel, dedicated to St. Michael, stood between the abbey-church and parish church of St. Nicolas, which latter still exists, and is one of the handsomest parish churches in the city. A portion of the cloister of the "Carmes Billettes" still remains, but the church was rebuilt in the seventeenth century. Close to the wall near the gate of St. Paul stood a convent and hospital called the "Ave Maria," founded by that strange mixture of cunning and piety, Louis XI. There were several old mansions in this neighbourhood, amongst others the Hôtel Barbeau and the beautiful Hôtel de Sens, the gateway of which is one of the finest examples of Domestic architecture of the fifteenth century existing in Paris. At the point where the wall of Philip Augustus ran down to that branch of the Seine which flowed between the "Ile des Vaches" and "La Ville," stood the "Tour de Barbeau," to which was attached one end of the chain which closed up this channel of the river. Not far from this point, the great Rue St. Antoine entered the district called the Marais, through a gate called the Port de Baudoyer, near the church called "Le petit St. Antoine," to distinguish it from the abbey-church of the same name, which stood without the Porte St. Antoine. The great parochial church of St. Paul stood between the Seine and the Rue St. Antoine; it was a stately structure with a lofty tower, and, like most of the greater parochial churches in Paris, consisted of a lofty nave and aisles, with a chevet, both surrounded by chapels. Several drawings of it are in existence. This church gave its name not only to the district, but to a vast palace erected by Charles V. Michelet informs us that when the dual kings, Charles VI. and Henry V., resided in Paris, Henry took up his residence at the Louvre and Charles at the Hôtel St. Paul. It was from this palace that the remains of the much-hated Isabella of Bavaria were taken without a single mourner to St. Denis. Whether this unfortunate queen deserved the contempt with which she was treated is a question we leave to historians to decide, but there can be no doubt that the strong prejudice against her led to the abandonment of this magnificent palace. At the time of which we are writing the Hôtel St. Paul had entirely ceased to exist, and its site was covered by a number of noble mansions, among which may be mentioned the Hôtel de Brienne and Hôtel de la Reine. There were many other great houses in this neighbourhood, of which some fragments may still be traced—the Hôtel St. Pol in the Rue de Sicile, and the Hôtel of the Prévôt de Paris, opposite the Church St. Paul, the Hôtel d'Angoulême, and the Hôtel de Petit Musc. It would be, however, impossible to enumerate them because of the unfortunate practice, which seems always to have prevailed in Paris, of changing the names of buildings either with that of the dynasty or of the possessor. As an example of this, the Hôtel Petit Musc has at various times been called the "Hôtel Neuf," the "Hôtel des Estampes," "Hôtel Bretaigne," "Hôtel d'Orange," "Hôtel de Valentinoirs," "Hôtel de Roux," "Hôtel de Langres," "Hôtel de Main," and "Hôtel d'Ormerou. A stream, called the Egout St Catherine, crossed the Rue St. Antoine, and upon its western bank stood the Priory of St. Catherine du Val des Ecouliers. An interesting drawing of it by Cochin, in the seventeenth century, shows a large cruciform church, with a long, aisleless choir, and a lofty flèche at the intersection; there are no flying-buttresses to the nave, which probably had a wooden roof. Another old engraving represents a remarkably elegant Gothic cloister, and the transept end of the church pierced by a large rose window, all which seems to suggest that the building was a beautiful structure. Another highly interesting church and monastery, that of the Célestines, stood by the quay close to the entrance of the Arsenal. As originally constructed, the church of the Célestines was one of those vast single-span buildings, consisting only of a great nave covered by a timber roof. But at the commencement of the fifteenth century the Duke of Orleans, whom we have already had occasion to mention, the brother of Charles VI., erected a most sumptuous chapel, attached to this church, as a self-inflicted penance for a practical joke which caused six or seven persons to be burnt to death. This chapel and others which were subsequently erected became in course of time filled with monuments of such magnificence that they were excelled by those of no other church in France save only the Abbey of St. Denis. The great cloisters were erected about the year 1530, and are remarkable for being the first ecclesiastical structure in Paris erected in a purely Classical style.

On the north side of the Rue St. Antoine stood the Palace of the Tournelles, so called from the number of towers and turrets which formed its most distinguishing features. After the abandonment of the Hôtel St. Paul, this building became the principal residence in Paris of the French kings, and remained so until Henry II. was killed in a tournament held in its tilt-yard, after which period it was abandoned and allowed to fall into ruin. The representations of this great palace are so scarce and vague that it is somewhat difficult to say exactly what it was like. Probably the great building shown to the extreme right in the old manuscript illustration of Paris, to which we have previously alluded, may be intended to represent it.

The great Tilt-yard and the Bas-cour are shown in some of the old views of Paris, but the main building had ceased to exist at the period we are illustrating. There were a large park and gardens attached to the palace of the Tournelles, which extended almost to the Temple,—a vast edifice, partly monastic and partly fortress, which stood near the wall of Charles V. Its buildings consisted of a very remarkable church, the earliest part of which was erected by the Knights Templars, and was almost identical with the rotunda of the Temple Church in London. Great additions, however, were made to the building after the suppression of the order. A very deep open porch, with a large chapel over it, had been added at the west, and at the east a nave, transepts, long choir, and tower, had been constructed; the very beautiful cloister at the west end is shown by Israel Silvester. There was a refectory and two great towers or keeps; one of these was a huge structure, defended by six extinguisher turrets. The great tower derived a sinister reputation from its being made the prison of the unfortunate Marie Antoinette and her family. Here, probably, were perpetrated those cruelties which ended in the death of the child-king Louis XVII.

Nothing now remains of the Temple of the Priory of St. Catherine, the Church of St. Paul, or the Monastery of the Celestines. At the end of the Rue St. Antoine stood the Bastille, the singular old fortress with eight towers, which was destroyed by the mob at the commencement of the Revolution.

There is a very characteristic letter by Horace Walpole which might advantageously be translated into French, in order to teach our neighbours a little more common sense. It might help to show them the absurdity of the mischief so frequently perpetrated in their political strife. Writing to Mrs. H. Moore, under the date "September, 1789," he says:—"I congratulate you on the demolition of the Bastille,—I mean as you do, of its functions. For the poor soul itself, I had no ill-will to it; on the contrary, it was a curious sample of an ancient Castellar dungeon, which the good folks, the founders, took for palaces. Yet I always hated to drive by it, knowing the miseries it contained. Of itself it did not gobble up prisoners to glut its maw, but received them by command. The destruction of it was silly, and agreeable to the ideas of a mob who do not know stones or bars and bolts from a *Lettre de Cachet*. If the country remains free the Bastille would be as tame as a ducking-stool, now that there is no such a thing as a scold. If despotism recovers the Bastille will rise from its ashes."

We have now described, as far as our space will allow, the most interesting buildings within the ancient walls of Paris, but as our view shows some of the edifices which were without the walls, we must say a few words about some of them. In the suburbs of "La Ville," to the north, were the old Abbey of Montmartre, the twelfth-century church of

* It is but right to say that the drawings extant of the Hôtel de la Tremouille represent a building that does not look in the least like the work of an Italian architect; but, on the other hand, the Hôtel de Ville, which was *certainly* the work of Dominic of Cortona, has few Italian characteristics.

which is still in existence, though, unfortunately, the choir is desecrated. Outside the Port St. Martin stood the Monastery of St. Lazare, which formerly belonged to an order of military knights; but in latter times became associated with the history of St. Vincent de Paul. It was here that he established an order, or congregation of priests, which still bears his name; the church no longer exists, and the more modern buildings of the monastery are used as a prison; the memory, however, of this great and good man is commemorated by the stately basilica decorated by the wall paintings of Hippolyte Flandrin.

The church of St. Laurent, formerly attached to a priory, still exists, but the large hospital no longer remains. The Abbey of St. Antoine is not shown in our view.

The suburbs surrounding "L'Université" were extremely interesting; to its west stood the great Abbey of St. Germain des Pres, where many of the early kings were buried. The church, a noble twelfth-century work, still remains, though two out of the three spires which once adorned it have disappeared, as have also the Lady-chapel, erected by Pierre de Montreau (in which he was buried), the refectory, which was also designed by him, and all the other buildings of the monastery, amongst them the great prison which witnessed the massacres perpetrated at the Revolution. The magnificent Renaissance Church of St. Sulpice had not been erected in the reign of Francis I., but an interesting old church, of which several views still exist, stood on its site. Close to the present site of the gardens of the Luxemburg, within a vast enclosure, stood the monastery of the Chartreuse, with a large plain church ceiled with wood, and the separate houses for some thirty monks round its great cloisters. The celebrated Lesueur was a monk here, and his pictures, which now adorn the walls of the Louvre, were painted by him to decorate the little cloisters of the monastery. Nearer to the walls of the city stood the great hospital of St. Jacques "de Haut-Pas," which belonged to an order of Knights Hospitallers, but afterwards passed into the hands of the religious Order of St. Magliore.* Ancient views show it to have been very interesting, consisting of a vast hall, with a chapel at its eastern end.

In the immediate foreground of our view is shown the Abbey of St. Victor. Few monasteries in Europe have left a more brilliant record than this great religious institution. As Guilhermy points out, its monks were saints, theologians, savants, authors, poets, and artists. Within its walls was first established that great school of learning which ultimately developed into the University of Paris.

The buildings of the celebrated Abbey were not unworthy of its high reputation; they stood within a vast space enclosed by walls and defended by towers, which was bisected by a branch of the River Bievre. Interesting views are given in "Tableau Historique et Pittoresque," "Les Anciens Edifices de Paris," &c. The church was a noble and very lofty edifice of various dates, and consisted of a spacious choir with aisles and chevet, magnificent transepts, and a nave and aisles of only three bays; all these were of rich Flamboyant work (1517—1534); but the great tower and spire which stood to the north of the chevet, the Chapel of St. Denis at the east end, and the entrance-hall or narthex, were twelfth-century work. The crypt under the choir was of very early date. The great cloisters were "transitional" in character, and were probably erected at the close of the twelfth century. The Little Cloisters and Infirmary Chapel are described by Le Beuf as being beautiful examples of the architecture of the close of the thirteenth century. The Chapter House was partly twelfth century and partly Flamboyant. The Refectory, Dormitory, and Infirmary dated from 1531—1535, and the apse of the Chapel of St. Denis from the fifteenth century. The buildings are said to have been so rich in stained glass that the whole history of that art from the twelfth to the seventeenth century could be studied in this one monastery.

The arrangement of the church was in several respects remarkable. Firstly, with regard to its orientation, Le Beuf says that "its chevet pointed to the summer orient, whereas all of the ancient churches in Paris were turned to the winter orient." Le Beuf does not give any reason for this, but we are inclined to think it was a practical one. The ground evidently sloped away rapidly in a north-easterly direction down to the banks of the previously-mentioned branch of the Bievre. In some of the old plans of Paris the church is represented as being built north and south, but its apse in reality pointed almost exactly N.E.* The second great peculiarity was the lowness of the aisle and the remarkable height of the triforium, which was vaulted and formed an upper aisle or gallery. This treatment is occasionally met with in twelfth century churches, but is so uncommon in Flamboyant ones, that we cannot help suspecting that the sixteenth century builders preserved the shell of the twelfth century church, and simply cased it up in Flamboyant work. The windows appear to have been all of four lights, and the transepts had magnificent rose windows, the leading lines of the tracery being arranged in the form of a Maltese cross. There was a remarkable lofty *flèche* over the crossing, and the piers of the choir were adorned internally with a rich series of niches. The whole church was vaulted, and the very lofty clearstory was supported by magnificent flying buttresses. In all probability the sixteenth-century builders intended to continue the nave several bays farther westward; but, if so, this was never carried out, and in the eighteenth century the old narthex was pulled down, and a quasi-Classical façade patched on to the end of the unfinished nave. Nothing now remains of the magnificent Abbey and Church of St. Victor, though the church appears to have existed down to the year 1797, and views taken about the year 1835 show some ruins of the monastic buildings, which look like the arcades of the Infirmary. The huge wine-market now covers the site of this venerable and celebrated edifice.

Paris of the Middle Ages must, indeed, have been a most interesting city, abounding in architectural grandeur and picturesqueness. Little, alas, of it is now left, except the noble cathedral, a few parish churches, and here and there a fragment of some collegiate or domestic building. Its site is covered by the most magnificent modern city of the world; but let us hope that Frenchmen, while continuing to adorn their splendid capital, will scrupulously preserve the few existing monuments of its past history. Unfortunately, the proposed demolition of St. Julien le Pauvre is a bad omen for a year which is to be marked by the opening of an Exhibition devoted to the arts.

* In the eighteenth century it had again changed hands, and was in the possession of the Oratorians.

* The only old church in Paris which appears to have been built north and south was the Chapelle d'Orgemont, in the Cemetery of the Innocents.

TO LOVERS OF GREEK ARCHITECTURE: AN APPEAL.

PROBABLY all architects, who are architects in spirit and in truth, will agree with the dictum of Quatremère de Quincy, that there is no class of architectural detail in which the distinction between a refined and a clumsy or corrupt style of architecture is so distinctly marked as in the designing of the profiles of its mouldings, and certainly no one who has accurate knowledge of the subject will question that, judged by that test if not by others, Greek architecture is *facile princeps* among the architectural styles of the world. Its mouldings are not only characterised by a refinement of line and contour, regarding them merely as design, which is not exhibited in those of any other known style, but they are practical illustrations of the intellectual spirit in which the Greeks of the greatest period carried out every detail of architectural design, in the evidence they give of the application of mathematical and geometrical science in the adjustment of their curves and proportions.

Every architect, also, in the present day, will agree that the character of architectural mouldings of the best style cannot be adequately conveyed and recorded except by full-size sections; and that this consideration must apply with exceptional force in the case of mouldings of so refined a character as those of Greek architecture. It is only in rather recent times, however, that the importance of full-size sections has been recognised. In various works in illustration of Gothic architecture published of late years the mouldings have been carefully given full size. The late Mr. Edmund Sharpe was one of the first, if not the first, to call attention to the importance of this in the study and record of mouldings; his own collection of full-size mouldings of the various periods of Gothic architecture was a most remarkable one, of which only a portion was ever published. In one of his works in illustration of Gothic architecture, Mr. Sharpe adopted the method of placing a small section of the whole moulding to scale, in the corner of a plate, lettering the different points to which the full-size sections were to refer, and then drawing the full sizes in separate sections all over the page, each with index letters showing where the junctions were to be made, and thus getting the whole of a large group of Gothic mouldings on one moderately sized page, in a manner perfectly intelligible to an architectural student, though it would no doubt be bewildering to the lay reader; but as the lay reader mostly knows and cares nothing about mouldings at all, that is of little consequence.

But though Gothic mouldings have been thus profiled full size in modern publications, nothing of the kind has been done, in England at all events, for the far more refined and delicate mouldings of the Greeks. Even Mr. Penrose's celebrated work contains no full-size profiles, except one or two separate small mouldings; and it is the same with Mr. Pennethorne's work, and others which are standard illustrative works on Greek architecture. A few months ago the attention of the Hellenic Society was drawn to this subject in a short address by the Editor of this Journal, delivered at one of the afternoon meetings of the Society. Mr. Statham did not profess to bring forward any new facts about Greek mouldings (for which, indeed, Mr. Penrose and Mr. Pennethorne have left little room); but inasmuch as the Hellenic Society has concerned itself mainly with sculpture and vase-paintings, and very little with architecture, the nature and degree of interest attaching to Greek architectural mouldings was obviously a matter of new information to some of the members. At the conclusion of the lecture, reference was specially made to the want of adequate illustration of Greek mouldings by full-size profiles, in any published works, and it was urged that the Hellenic Society might well take this up as a matter coming entirely within the scope of the Society, the object of which is to illustrate and throw light upon the life, literature, and art of ancient Greece.

The seed did not fall, in this case, on stony ground; the Council of the Hellenic Society showed every wish to pursue the suggestion to a practical conclusion, but the Society, the objects of which naturally only appeal to the cultivated few, is at present by no means rich in funds, especially after the undertaking of raising the funds to establish the British School at Athens. Some unexpected assistance in the matter, however, came from a young architect, Mr. R. Weir Schultz, who obtained the Royal Academy gold medal and architectural travelling studentship in 1887, and decided to go to Athens to study the Greek monuments *in situ*. He undertook, in a liberal and truly artistic spirit, to do what he could while at Athens to procure such accurate full-size sections of Greek mouldings as might furnish material towards the production of a work

illustrating this important feature of Greek architecture in an adequate manner.

Some part of this work Mr. Schultz accomplished during his first stay at Athens; and we now come to the special "appeal" which it is our object to make to lovers of Greek architecture. Mr. Schultz is about to visit Athens again in pursuit of his studies, and is ready to do what more he can towards increasing the collection of full-size mouldings already commenced; but he cannot afford under present circumstances and with present aids to remain long enough and give time enough to complete the work. The Hellenic Society have no funds at their disposal; and the Institute of Architects, which we should have thought had funds which it might most properly have applied in aid of such an object, has, we are informed, for reasons which we do not pretend to understand, declined to make any subscription towards the work. But it is hoped that some of those who understand the interest of the subject may be willing to subscribe so far as to make it worth while for Mr. Schultz to remain long enough at Athens to do the work thoroughly, and to get, at all events, the materials for something like a complete illustration of Greek mouldings. The question of publication, as we understand, has still to be considered; but the opportunity now occurs of, at all events, preparing the materials for such a work; and we are told that 50*l.* would go a long way towards providing all the assistance at present necessary.

We make this appeal, for an object which should be of special interest to many of our readers, at the direct request of the Council of the Hellenic Society, personally conveyed to us through Mr. Penrose as their representative. Mr. Penrose has kindly consented to act as treasurer for the fund thus appealed for, and any of our readers who wish to assist towards this effort to secure the materials for a full illustration and record of Greek architectural mouldings are hereby invited to send their subscriptions for that object to Mr. F. C. Penrose, Cathedral Surveyor's Office, Chapter-house, St. Paul's-churchyard.*

ILLUSTRATIONS OF OXFORD.

THE volume of sketches of Oxford by Mr. Fulleylove, long promised, has at last appeared.† The drawings from which the illustrations are reproduced were exhibited some time since at the gallery of the Fine Art Society, and we commented on them briefly at the time. Some subjects were in watercolour, some in pencil; some were exhibited in two editions, both colour and pencil, the latter having been done, we presume, for the purpose of reproduction for this work; for the plates given appear to be, from internal evidence, all produced from pencil drawings, a medium which is very well calculated for reproduction by lithography, much more of the orginal artist's touch being preserved in the copy than can be the case when reproduction in monochrome from colour is attempted. The artistic portion of the volume consists of thirty plates, giving views of various picturesque corners of Oxford, interesting both historically and architecturally, besides some small illustrations in the text of the introductory chapter, which, by the way, are from washed drawings, either monochrome or colour, and are so successful as rather to give us pause in regard to our verdict just now in favour of pencil.

It is impossible even to look at this set of small-scale sketches without feeling something of the fascination which Oxford, in her material as well as in her spiritual being, has exercised upon so many minds. In regard to the material aspect of the city of colleges, probably the fascination is stronger in modern times than it ever was before. Such a city stands to us as a representative, rare indeed in these days in England, of a beauty and picturesqueness of building in cities which, under the press of modern life, seems for the time at least to have disappeared:—

> "Retired Leisure
> That in trim gardens takes his pleasure,"

has neither time nor space for leisure nor for gardens now; and one goes into a college garden or green "quad" with a strange feeling of being in a world quite apart and distant from that which one is generally doomed to inhabit. To those who have not the right to claim filial relations with Alma Mater, it is the picturesqueness of the buildings and the quiet of the town that strike the imagination most; though Wordsworth taught some of us something of the more innate spiritual and intellectual interest which Oxford has for her own sons, when, with a poet's intuition (for he was not an Oxford man) he expressed his enthusiasm at the sight of the city in that glorious sonnet which will last as long as the English language lasts,—an outpouring of the heart into noblest language, which even perpetual quotation seems unable to hackney.

But we are wandering away from architecture, which it is difficult not to do when speaking of Oxford, where the architecture symbolises so much more than meets the eye. And it is curious to reflect that, with all the prestige which Oxford has as a town of architectural beauty, she has really no great building of the highest class architecturally. She has no King's Chapel, to stand as an unequalled example of its kind. The great architectural glory of Oxford consists in the multitudinous combination of buildings, none of them of the highest beauty or of very great purity of style in themselves, in such a manner that they can be seen grouped together in a *coup d'œil*, while the fine things of Cambridge are rather to be seen separately. Of quieter beauties in semi-Domestic architecture combined with garden scenery (if one may use the term) Oxford can, however, show as fine a record as Cambridge. It is the architectural grouping which forms the charm of many of Mr. Fulleylove's drawings. No one could have been better fitted to do justice to such a class of subjects, for he combines the eye of an artist for effect and composition with more knowledge and experience in drawing architecture than the majority of contemporary artists possess. The two first views in the book are good illustrations of this artistic grouping and contrast. Nothing could be more effectively contrasted than the pyramidal group of St. Mary's Tower in the middle distance (Plate I.) with the heavy massive architecture of the Radcliffe Library, part of which is brought into the foreground. The Radcliffe in itself is a heavy and by no means a very beautiful example of Classic architecture; but it takes its place in the picture admirably. So in Plate II., in which Laud's rococo porch to St. Mary's forms the foreground object, with the Gothic church crossing it in the background, and the rich cluster of the pinnacles of the spire rising behind. Plate III., "University College," gives one of the best of the High-street views and one of the most often illustrated, again with the happy contrast between the horizontal lines of the college front in the foreground and the spire of St. Mary's in the middle distance. Merton College Gate and chapel, with the street winding away into the distance (Plate V.), is a fine example of the picturesque of street architecture. Next we have the interior of Merton Library, with its curious triumphal arch rising between the bookcases, with the unmeaning but picturesque architectural erection on the cornice. A very pretty street view is that of Broad-street (Plate VII.), again showing the beauty of a winding street, into which the square Classic lines of the Clarendon building stand out as a kind of architectural promontory. The quad of Oriel College (Plate IX.), with the broad tower rising behind it, and the classic *fronton* intruded above the lines of Gothic windows, is a very picturesque bit, but the perspective seems a little faulty; the point of sight, according to the buildings on the extreme left and on the right, is near the left-hand side of the picture, but the cornice line of the opposite buildings falls slightly towards the right, which certainly could not be unless the building was considerably out of level: perhaps only those who are in the habit of making perspective drawings of architecture would notice it; but it is an oversight. Plate X. shows another view of the High-street, as picturesque as those which preceded it, illustrating aptly what we remarked above as to the predominating element in the architectural beauty of Oxford; here Hawksmoor's heavy rusticated entrance to Queen's (reminding one at once of the architect of St. Mary Woolnoth) forms the foreground object, again contrasting with St. Mary's spire, which tells wherever it comes in. The beautiful New College cloisters ("curiously little known," says Mr. Ward, but we had thought otherwise) are done justice to in Plate XI.; the effect of the heavy, rich, Perpendicular tracery, more solid in proportion than tracery of that date usually is, is very well given. The garden views come out better in the water-colours which were exhibited in Bond-street; the view of Wadham Fellows' garden hardly sufficiently illustrates the remark quoted from an American writer (Wendell Holmes?), that it was "the most distinguished small garden in Europe."

A reproduction from one of Mr. Fulleylove's drawings is given in this number, that with "The Clarendon building" in the foreground. The same building comes into several other views. This was the original house of the now famous Clarendon Press, which has moved in these latter days to more convenient quarters. This forms Plate XXVII. in the book, but does not tell so effectively on the smaller scale necessarily adopted there as in the larger reproduction which we are able to give. It was desirable, of course, not to make the book too large and unwieldy, but the considerable reduction from the original size of the drawings has resulted in a good deal of the artist's touch being lost in the reproductions, as those who compare our larger lithograph with the one in the book will probably admit. This appears to us one of the most admirably composed drawings in the book; and though the architecture of the Clarendon is of little interest in itself, the large masses of the columns and pedestal in the foreground have a fine effect in contrast with the quiet street scene which fills up the distance.

Mr. Humphry Ward's literary notes are pleasantly written, and convey as much information about the buildings as is needed by the general reader who wishes to know a little about the purposes and history of the buildings represented; but the main value of the publication is as a collection of very artistically treated scenes of picturesque architectural composition, which will interest architects and artists alike, and may also come to have an archæological value as a record of buildings and street scenes, some of which, though we hope not many, will in process of time suffer change.*

The Institution of Civil Engineers.—The following table shows the progress of this society, incorporated by Royal Charter, during the last decade and the past twelve months—the date given, January 2, being that of the establishment of the Institution in the year 1818:—

January 2.	1879	1888	1889
Members	1,081	1,596	1,638
Associates	1,717	2,855	3,003
Honorary Members	16	20	18
Students	535	947	957
Totals	3,349	5,418	5,616

At the ordinary meeting on Tuesday, the 8th inst., the paper to be read with a view to discussion will be on "The Compound Principle applied to Locomotives," by Mr. Edgar Worthington, B.Sc., Assoc.M.Inst.C.E.

* We have suggested to Mr. Penrose that a statement of the subscriptions and subscribers' names should hereafter be published in this Journal.

† Oxford: illustrated by John Fulleylove, R.I., with notes by T. Humphry Ward, M.A. London: the Fine Art Society, 1889.

* One or two of the street scenes are already altered by the demolition of old houses, in preparation for new buildings, since the drawings were made.

NOTES.

SIR FREDERICK PEEL and his colleagues on the Railway Commission took farewell of the members of the Bar practising before that Court on Monday last, as the Commission ceased its existence with the expiring year. Sir Frederick and Mr. Price had served since the establishment of the Commission in 1873; while Mr. Miller, the retiring Commissioner, was selected to fill the vacancy caused by the death of Mr. Macnamara in 1877. The constitution of the new Commission under the Act of 1888 rendered the retirement of one member of the existing body unavoidable, and Sir Frederick Peel and Mr. Price, as members of the original tribunal, are naturally selected for the new appointment. Both Mr. Miller's late colleagues, and Mr. Littler, Q.C. (as senior member of the Bar) complimented and sympathised with the retiring Commissioner, and we presume that we may regard the knighthood conferred upon that gentleman on New Year's Day as a mark of recognition of his valuable services upon this Commission. With regard to its success there can be no two opinions. Before it had been in existence five years there had been a greater number of cases submitted for its consideration under Mr. Cardwell's Act than had been before the other courts in the whole of the twenty years that had elapsed since the passing of that measure. The Commission inspired a degree of confidence which was due very largely to its composition; for Mr. Macnamara was most intimately acquainted with all the details of the work of railways and also of common carriers. Mr. Price had been a railway director and chairman, while Sir Frederick Peel, by his quick perception of the legal points involved, and his weighty though clear utterances when delivering judgment, soon proved himself a capable President of the Court. The Commissioners have made an impartial use of the powers with which they were invested, and have pointed out from time to time where the law,—which they were, of course, compelled to administer as they found it,—might advantageously be amended. There is no doubt that the newly-constituted Commission will be equally strong and worthy of confidence, and we hope that the favourable anticipations which have been formed regarding it will be realised.

A CORRESPONDENT, Mr. R. Langton Cole, writes to us:—"Seeing the strong probability that electricity will be supplied to most of London and our chief provincial towns before any great length of time, should not some knowledge of the principles of its use and application be required of students of architecture? With this object, the Royal Institute might include the subject in its curriculum, and the Architectural Association might provide instruction by a course of lectures or a class. I think it will be agreed that this matter should not be left entirely to the electrician, however able he may be, for the use of this new means of obtaining light and power affects the arrangement of a building most intimately, and in such a way that only the designer of the building can use it with the best results." We quite agree with Mr. Cole in thinking that practical electricity is a subject which the architect of the future will have to study, and that it ought to form part of an architectural student's curriculum.

THE work of re-arranging the vast collection of Greek vases in the Louvre Museum,—a re-arrangement long sadly needed,—is now progressing rapidly. M. Edmond Pottier, who has charge of this important labour, has adopted a somewhat independent line: he has decided to arrange the vases geographically. He maintains,—and there is much to be said for his view,—that any intelligent observer can for himself classify the vases according to their shapes, or even, after a little training, according to their styles. Their geographical provenance can, on the other hand, only be known by reference to catalogues, and in the case of such museums as the Louvre,—where at present no printed catalogue exists,—by reference to archives not always easily accessible on the spot. His principle is, indeed, to assist the mind just where it is least assisted by the eye,—to emphasise what is least obvious. Such a method of classification is, of course, rendered specially laborious in the case of vases, as the place of discovery and the place of fabrication differ so widely,—specially laborious also in a collection like that of the Louvre, based largely on the old Campana Museum, in the case of which record of "provenance" is often unsatisfactory. Archæologists will look eagerly,—though in the case of so heavy a piece of work they may have to look long,—for M. Pottier's forthcoming catalogue, in which his system will take permanent shape.

STUDENTS of Greek ceramography at Paris have certainly every advantage. They have not only the advantage of the new arrangement of the collection, but within the very precincts of the Louvre—in the Cour Lefuel—they have M. Pottier himself lecturing week by week on the subject, bringing to his work not only the experience of his recent stay at Athens, but also that touch-and-handle knowledge of the subject that only the director of a large museum can ever have. It is certainly a heavy tax on the energies of one man to be at once investigator, conservator, and expounder of antiquities, and we are assuredly not of those who maintain that it is part of the function of a museum official to popularise. But M. Pottier's lectures are not intended to be popular. They are addressed to, and largely attended by, a body of working students. The gain to such of this intimate museum contact is invaluable.

THE Stuart Exhibition, at the New Gallery, is one of great general and historical interest; but, as will be readily understood, the artistic value of the collection, which is the main interest for us, is not, for the most part, very high. The majority of the portraits and portrait groups are stiff and flat productions, by painters of little name or fame, and in a great many cases there is no known painter's name at all. Here and there we come on a fine Vandyck, such as the half-length of Charles I., No. 68, which is a remarkably fine specimen of the painter; and that of "Prince Rupert and Prince Maurice" (80). To the artistic visitor the chief interest is in the articles of personal use or adornment,—armour, bijouterie, books, &c. Among these is a superbly illuminated small "Book of Hours" (case B, 316), said to have been used by the unfortunate Mary Stuart at her last devotions at Fotheringay; a silver draught-board, formerly her property, very richly ornamented; the "leading-strings of James VI.," worked by Queen Mary, an interesting curiosity and an excellent bit of embroidery; a gold watch made for James I. (case G, 421), rich in decorative effect; a large ivory tankard, carved in low relief, with great spirit, with a scene representing the landing of Charles II. at Dover (case H, 465); and a remarkable target, lined with leopard skin, covered in front with leather and studded with silver ornaments, with a Medusa's head in the centre (case J, 586); this is said to have been made in France for Charles Edward, and to have been used by him at Culloden. There are a good many other articles which combine artistic and historical interest, about which we may have more to say; at present we have not space for more than this brief note.

THE "Programm" published year by year on the day of the Winckelmann Festival, by the Archæological Society of Berlin, always contains valuable archæological material, and commands the attention of specialists. The eighty-fourth of the series (just published for 1888) has special claims on the attention of the educated public in England. It is by Dr. Paul Herrmann, and deals in detail with the excavations in the tombs of Marion in Cyprus ("Das Gräberfeld von Marion auf Cypern"). What the British Museum has gained by these excavations is well known. The accession of the polychrome alabastron with the new signature of Pasiades, and the beautiful lekythos with the slaying of the Sphinx by Œdipus, was duly chronicled by the *Classical Review*, and both have since been published with a commentary by Mr. Murray in the "Journal of Hellenic Studies" (1887, pl. lxxxi. and lxxxii., p. 317 ff.). Perhaps, however, few in England know much of the discoveries beyond these two incomparable specimens. The great mass of the antiquities found had, unhappily, to be put up to public auction in Paris, and the only collective memorial of them has hitherto been the sale catalogue, published by Fröhner, a work of slight scientific value. Some important specimens were bought by Berlin, and to Dr. Herrmann was entrusted the work of arranging and cataloguing these,—hence his present monograph, which is based on a conspectus as complete as possible of the whole material. It is illustrated by plans, woodcuts, and three phototype plates.

DR. EDWARD THRAEMER'S book, "Pergamos," just published, supplies a want long felt. It deals, not, indeed, directly, with the fascinating subject of the recent Pergamene discoveries, but with the mythology and early traditions of Pergamos, a knowledge of which is the necessary preliminary to the study of the discoveries themselves. It is fast becoming better and better understood that the art of a country, which, for the ancients, is practically nearly coextensive with its mythography, cannot be fully understood without the study of its mythology, and *vice versâ*. Dr. Thraemer is well-known to archæologists even in England by his articles in "Roscher's Lexicon," articles which we have no hesitation in saying are the best that have appeared in that admirable publication. Those who cannot judge of mythological evidence at first hand may safely trust in him. It would be out of place to review in detail here a book whose connexion is with literature in the first, with art only in the second place; but we may call special attention to the chapter II., 1, which deals with the deities worshipped in the Acropoli precinct of Pergamos, and II., 3, which deals with the mythology of the lesser Pergamene frieze.

EXPERIMENTS relative to the influence of the quantity of water used in mixing mortar have shown, according to the *Annales des Ponts et Chaussées*, that cement mortar mixed with a large excess of water does not set so quickly, but assumes about the same hardness in the course of a few months as mortar to which the usual quantity of water has been added. On the other hand, a mortar mixed with very little water, and which consequently forms a stiff paste, sets very quickly, its degree of hardness being much greater in a short time than mortar mixed with a normal quantity of water. Cubes made of mortar of normal consistency, however, are nearly twice as hard after two years as those made of mortar in the mixing of which very little water has been used.

AS our readers will remember, there was a scene got up by the irrepressible Mr. Judge at the Metropolitan Board of Works the other day about their dinners at the expense of the ratepayers. It appears that there is another member of the Paddington Vestry, Mr. J. Blackwood, who takes a strong view as to this proceeding, and has sent round a circular to the ratepayers of Paddington protesting against this indulgence at their expense, and trusting that the Vestry will support him in a motion of which he has given notice, with a view to putting a stop to "this feasting." He adds, "How necessary this is will be seen from the menu of the last dinner, of which I received a copy, and print on the other side of this card." The record of the composition of the Metropolitan Board of Works' dinners at

the ratepayers' expense may be an interesting matter of history when the Board has ceased to exist. There is, however, nothing very alarming or luxurious in it, and one may conclude that the Vestryman who is so much impressed by it is a gentleman of simple habits and not accustomed to dine in French. As a matter of fact, also, it was not the Board of Works *en masse* that dined, but a Committee of the Board, though, from all accounts, it appears to have been a committee which was generally remarkably well attended; and we quite agree with Mr. Blackwood that the dinner never ought to have been charged to the ratepayers, and that to do so was a proceeding quite unworthy of a public body in the important position of the Metropolitan Board of Works.

THE ENGLISH IRON TRADE IN 1888.

THE past year, which was ushered in under more favourable auspices than several of its predecessors, has not belied the anticipations formed when it opened. On the whole, it has been a very prosperous year, and although this assertion ought to be somewhat qualified when we speak of the iron trade by itself, the course of business in that branch of industry has been of a remarkably even nature. There was a depression about the middle of the year, but its close finds the great staple industry of this country in a better position than at its commencement. This must be considered eminently satisfactory, for 1887 was a better year than the three which preceded it, and 1888, as has been observed, is an improvement upon its forerunner. One of the most gratifying features of last year is the emancipation of the English iron trade from the United States, the shipments to which decreased to about half their volume, the loss thus incurred being compensated for by the expansion of trade in other directions. This fact shows that the efforts of English manufacturers to keep their hold upon foreign markets, reference to which was made in our review last year, have been extremely successful. Another good feature of 1888, and to which the satisfactory nature of the past year's trading is to a great extent due, is the prosperity of the shipbuilding trade, leading to demands upon manufacturers of ship material which they were almost unable to meet. Briefly stated, the iron trade was brisk at the opening of the year, and reached its lowest ebb about June, when a flood-tide set in which will carry it well on into the year 1889. Prices following the curve thus described, there were absolutely no violent fluctuations.

The Board of Trade Returns for 1888, at least for the first eleven months of the year, are such as no one, unless he be an habitual croaker, could find fault with. They show a slight falling-off (about 120,000 tons) as compared with those of 1887, the figures for the corresponding eleven months being 3,671,523 tons and 3,796,665 tons respectively. On the other hand, the value of our iron and steel exports indicates an increase of quite one million and a half sterling, being 24,306,089*l.* in 1888 and 22,808,851*l.* in 1887, the growth being due partly to the better prices obtained, partly to the character of the exports, more manufactured and more highly priced products being sent away than lower-priced crude materials. Besides this increase in the value of our exports, the home consumption, when the figures are available, will undoubtedly show a large expansion, to judge by the busy state of the iron and steel works for the greater part of the year. We believe the position of the iron trade would be still better if it were not for the enormous stocks of pig-iron in hand. In this respect Scotland is the chief cause of trouble, and it speaks well for the elasticity of trade that so little injury has been done to it by those accumulations. The stocks of pig-iron in Scotland, both at Connal's store at Glasgow and in makers' yards, amounted on December 25 to 1,244,433 tons, against 1,228,040 tons at the corresponding date in 1887, which is an increase of only 16,393 tons on the year. Owing to a large local consumption, stocks in makers' hands have decreased, but the increase in Connal's store amounts to 88,512 tons. The picture with regard to the stocks of Cleveland iron is much more pleasant, for there we see a decrease in stocks of about 170,000 tons, with a production increased from 2,508,184 tons in 1887 to 2,615,000 tons in 1888, showing the consumption and shipments combined to have been nearly 300,000 tons larger in 1888 than in the year before it. It is when dealing with such facts as these that the improved position of the iron trade at the close of 1888 will be fully realised, quite independently of the influence of the higher prices now ruling.

In Scotch pig-iron warrants the highest price of the year was 43s. 6d. (on January 4), and the lowest 37s. 1d. (in May), and between these two quotations prices have fluctuated during the year, the market, always a sensitive one, owing to the speculative nature of the business carried on there, being oppressed by the heavy stocks in Connal's store, which in June reached one million tons, and have since slowly but steadily crept up. The closing price of warrants was 42s., so that a recovery of 5s. from the bottom price of the year was made, while on the whole year there has been a drop of 1s. 6d. a ton. Middlesbrough iron has been the gainer by about 1s. a ton. In January, No. 3 G.M.B. was 32s. 6d., and reached its highest price (34s. 7d.) in September. Between these two months it had dropped to 31s. 6d., and it closed the year at 33s. 6d. to 33s. 9d. It is certainly remarkable that Bessemer iron in the north-west of England, of which there has been such a greatly increased demand for the manufacture of steel, should have lost 2s. on the year; but it would appear that over-production has a large share in its depreciation. Mixed parcels of Bessemer iron were quoted 47s. in the first month of the year, but by midsummer it had gone down to 42s. In July, it rose to 42s. 6d., in August to 43s., and in September to 45s., at which price it remained in October, losing 6d. a ton in November, and closing the year at 45s. In other districts where crude iron is produced, pig followed the curves of depreciation and improvement noted in the three centres referred to, the close of the year finding Lancashire pig-iron advanced 1s. 6d. a ton, and Staffordshire 2s. 6d.

A great impulse was given to the finished iron trade by the demand made upon it by shipbuilders, as well as by increased exports. In Scotland the consumption was so well sustained that manufacturers were able to advance prices of bars rapidly 15s. a ton from the bottom price of the year, and even in the last week of the year there have been further advances ranging from 2s. 6d. to 5s. a ton. In the North of England there has been an increase in price as steady as the growth of consumption, the bi-monthly returns of the Board of Arbitration showing a uniform rise. For the first two months of the year the average selling price per ton of iron plates, angles, bars, &c., was 4*l.* 13s. 1d.; in the next two months it rose to 4*l.* 13s. 6d; next to 4*l.* 13s. 10¾d.; then to 4*l.* 14s. 2½d., and finally (that is to say, for September and October) to 4*l.* 16s. This shows a gain of 3s. per ton on the year, and it is most likely that the returns for the last two months of the year will present a further advance. Best marked bars in Staffordshire have been almost uniformly quoted at 7*l.*, but during the last two or three months they have been selling nearer 7*l.* 10s. Common bars have gained 17s. 6d. on the year, the price in the first quarter being 4*l.* 12s. 6d. to 4*l.* 17s. 6d.; in the second, 4*l.* 15s. to 5*l.*; in the third, 5*l.* as a minimum; and in the fourth, 5*l.* 5s. to 5*l.* 10s. Black sheets for galvanising have recovered 15s. a ton. Singles were at first 6*l.* 5s. and 6*l.*, but they became stronger subsequently on the formation of a syndicate of the South Staffordshire iron sheet makers, improving from 5s. to 10s. per ton in the third quarter of the year, and in the last quarter another 10s. Manufacturers of finished hardware began the past year badly, and as their business is influenced to a great extent by the metal market, the fluctuations in the latter during the year by no means improved their position. But, under the effects of an expanding trade, a better tone began to prevail, and at present their prospects are brighter than at any time during the past twelve months. Prices, which were low and unremunerative at the beginning of 1888, are now much higher and still improving. Tinplate manufacturers cannot be said to have had a good year. They fared particularly badly during the early months of the year, when, with the price of tin inflated to an abnormal degree, they had to complete contracts taken at a time when tin was 75 per cent. lower in value. But even when tin had sunk again to a more normal level, and although their order-books were well filled, it was impossible for them to realise better profits, the capacity for production being so large. Notwithstanding that shipments of tinplates have been beyond precedent, the close of the year finds the price per box at least 2s. lower, on the average.

The steel trade has made immense progress during the past year, the advance being due, in a great measure, to the large consumption of shipbuilding material, but also to the heavy production of steel rails, mostly for foreign requirements. The needs of users of steel have been so great that producers at times have been unable to cope with the demands made upon them. The steelmakers of Scotland have been doing exceedingly well, and the prices obtained by them have been remunerative. Steel shipplates were in January 7*l.* 10s., and they are at the same price at present, but they were at one time as low as 6*l.* 7s. 6d. Although the steel works in the North of England were never idle, there have been great changes in price. They commenced the year at 7*l.*, at which price they were also sold in December, but in the interval they were quite 20s. a ton less. A very large trade in steel has been done in the north-west of England, especially in rails, yet prices have varied a great deal. Plates have risen only 5s. on the year, being 7*l.* 10s. at its commencement and 7*l.* 15s. at its close, and at one time (in June) as low as 7*l.* There have been remarkable fluctuations in the price of steel rails in the north-western district, although the demand was good, and they are now 3s. a ton lower than they were in January last, being 3*l.* 19s. 6d. against 4*l.* 2s. 6d. Rails are fetching rather better prices in the north of England, 4*l.* 2s. 6d. being the value at the beginning and end of the year; but they have been 10s. below that price. The trade of Sheffield varied with the changing fortunes of trade in other districts, at least so far as the staple trades of the town are concerned. But one important branch—that of heavy steel castings—showed a steadily increasing activity throughout the year. A successful commencement was also made with the manufacture of corrugated boilerflues by a firm which, by reason of the slackness in its special line, that of armourplates, was induced to adapt its plant for the purpose. The production of crank axles and large forgings likewise promises to compensate for the trade Sheffield has lost in other departments.

As in 1887, shipyards were the principal customers for iron and steel also in the past year. What an impulse shipbuilding gave to the iron trade last year will be best understood when it is stated that the tonnage launched in 1888 was nearly double that of the previous year, the figures for last year being 903,687 tons, against 578,663 tons in 1887. Of the tonnage of 1888, the lion's share falls to the north-eastern ports (506,897 tons), the launches in the Clyde district amounting in the aggregate to only 280,037 tons. No other shipbuilding centre in the kingdom at all approaches those immense totals, the next highest being Belfast, with the modest total of 35,495 tons. The early part of last year was a busy time for shipbuilders, and this activity continued up to July, when the improvement in the freight market induced shipowners to give out additional orders for new vessels—a tendency which prevailed pretty nearly to the end of the year. The result is that shipbuilders have had their order-books filled to such an extent a to give them good cause for looking with confidence into the immediate future, the demand for tonnage still exceeding the supply. The engineering trades have been steadily improving throughout the year; but depression had prevailed so long in that department of trade that it took some time before the effects of the revival were really felt, while the year had far advanced before manufacturers were able to secure those advances in prices to which they were entitled by reason of increased activity and the rise in the materials used by them. Naturally, marine engineers were the first to benefit by the swing of work in shipbuilding yards; but activity is now the rule in almost every branch of engineering, stationary engine builders, machinists, and boilermakers, being especially full of work. Locomotive builders alone are slack, but the outlook for the new year has improved.

The year's prosperity is amply displayed by the better employment of labour, and at the present time there can be only a very small percentage of unemployed workers, while in some branches of trade the demand for labour exceeds the supply. It follows, as a matter of

course, that the workmen have had their share of the advance in prices. With the improving condition of the trade, agitation set up for a revision of the wages scale. In some cases the workmen exacted the full pound of flesh, while in others compromises were effected which, we trust, were satisfactory alike to masters and men. At any rate, no serious disruptions took place in their relations, which must be equally gratifying to those upon whom fall the evil consequences of strikes. Taking it all in all, the experiences of the past year may be said to have fulfilled the anticipations formed at its opening. As to the future course of business, the prospect is extremely favourable. Unless there should set in another craze for overproduction,—a danger to be feared in prosperous times,—there is no reason why 1889 should not be at least as good a year as that of which we have just seen the close.

LETTER FROM PARIS.

SOME months ago M. Lockroy removed from his office, for political reasons, the architect to the Palace of Versailles,—M. Leclercq,—and transferred him, as a kind of mark of disapproval, to the less important position at Rambouillet; and similar motives appear to have induced him to recall the eminent architect at Mont St. Michel,—M. Corroyer,—to whom the Government nineteen years ago confided the restoration of that important national monument; but who, being suspected of "clericalism," is found unworthy to serve his country professionally.

This is an iniquity which is the less pardonable on the part of a Minister who is a man of sufficient general education to know and understand the value of M. Corroyer's professional services. M. Corroyer, in a justly-indignant letter addressed to the Directeur des Beaux Arts, points out that in the work he is carrying on to put Mont St. Michel in a state of safety and durability, he has been successively supported by MM. Charles Blanc, Chennevières, Turquet, Paul Müntz, Kaempfen, and Castagnary, none of whom certainly were clericalists, but who never regarded such subjects from a political point of view. At the close of his letter, M. Corroyer says:—

"J'ai attaché mon nom au Mont St. Michel de telle façon que rien ne pourra l'en séparer. Maintenant je reprends ma liberté d'action et je me réserve de pour suivre en toute indépendance une étude qui aura, j'espère, l'approbation de mes confrères dont les doctrines sont les miennes et qui, menacés aujourd'hui par les mesures arbitraires dont je suis l'objet, sont aussi surpris que moi des théories professées en pleine assemblée par des gens qui n'ont pas, à notre avis, l'autorité qu'il faudrait en ces matières."

It is almost unnecessary to add that this unexpected step has been much resented by M. Corroyer's professional colleagues, who all profess the greatest regard and respect for him. His successor in the post is M. Petitgrand, an architect attached to the Commission des Monuments Historiques, who has directed some important works of restoration already, especially at the cathedrals of Puy and Séez, the churches of Louveciennes, Champagne, &c., and made a number of drawings for the archives of the Commission. It is much to be lamented that the functions of Government architecture should thus be subject to interference from mere political jealousy, and that men who are giving their whole lives to artistic work should be liable to be dismissed like domestic servants.

The Municipal Council has decided at last the great question of the decoration of the Hôtel de Ville, and work will shortly commence all along the line. We have already from time to time mentioned the selection of artists for various portions of the work made by the special Committee; and as this has been ratified by the Council without any alterations, there is no occasion to say anything further on that head. The Council has wisely left it in the hands of the same Committee which made the selection to overlook the work and receive the paintings, as well as to act as judges in the public competitions, by which some portion of the commissions have still to be decided. The total cost of the work will be 2,500,000 francs, payable in seven annual sums of 355,000 francs each. The direct commissions amount to 1,341,000 francs, the works put out to competition to 480,000 francs, and the materials, preparations, scaffolding, &c., stand for an amount of 510,000 francs.

Although it is much too late for the principal work for the decoration to be prepared, even in the form of cartoons, for the approaching Exhibition, it is hoped that some of the panels of figures, and the landscapes intended for the decoration of the smaller saloons, may be exhibited.

A competition was decided a few days ago, set on foot by a French journal, the *Courrier Français*, for a statue to Lazare Carnot, of the Convention, the grandfather of the President. Fifty artists took part in the competition, and the design chosen was that by M. Turcan. Prizes were adjudged to MM. Bourdelle, Charpentier, Fulconis, Beylard, Louis Noël, and Paul Choppin. According to the terms of the competition, M. Turcan must exhibit his completed work in this year's Salon. The choice made by the jury is a good one. M. Turcan is a thoughtful and original artist, who makes his own creations. His best contributions to the Salon exhibitions have attracted much notice; many will remember his "L'Aveugele et la Paralytique;" and he is an artist from whom we may expect a masterly work.

Among commemorative monuments which are actually in course of execution is that by M. Barrias, the sculptor, to the memory of Guillaumet, the painter of Oriental subjects. This will represent a young Arab girl leaning her hand on the plinth of the monument and scattering flowers. The sarcophagus bears a medallion portrait of the deceased painter. It is announced also that a group of artists who were friends of the late M. Castagnary are organising a subscription for the erection of a monument to his memory in the cemetery of Montmartre, where he is buried.

The Municipal Council have decided to accept for the city the offer of M. Pulitzer, before referred to, to erect in a public place in Paris (most probably in the Place des États-Unis) a group offered by an American Committee, and representing Washington and Lafayette. M. Bartholdi will shortly commence a model for it.

The Société Centrale des Architectes has elected its council for 1889. M. Chas. Garnier has been named President, in place of the venerable M. Bailly; MM. A. Normand and E. de Joly are Vice-Presidents. M. Eugene Monnier retains office as chief secretary, with M. E. Loviot as assistant-secretary, and M. F. Roux as editing secretary. M. Raulin is named keeper of the records (*archiviste*); M. Simon Girard, treasurer. MM. Bailly, Daumet, and Achille Hermant are entrusted with the duties of *censeurs;* and those of delegates are undertaken by MM. Bartomiaux, P. Wallon, Deslinières, Hèret, Bayard, Guadet, Sédille, J. Hermant, Bonnet, and Eugene Saint-Père.

Various competitions have been decided at the École des Beaux-Arts. That of the work of the upper class, whose subject was "Une Manufacture Nationale de Tapisseries d'Art," comes first. Among sixty-one designs, the jury have awarded the first medal to M. Bertone, and second medals to MM. Toulouze, Bépière, Deperthes, besides twenty-nine "premières mentions." For the sketch competition, the subject was "Un Siège Episcopal pour la Chœur d'une Cathédrale." Among forty-seven competitors, the jury awarded "secondes médailles" to MM. Berton and Breffendille, and "premières mentions" to MM. Jost, Dumesnil, and Eustache, as well as six "secondes mentions."

For the Achille Leclère competition, which is just opened, the Académie des Beaux Arts has chosen as the subject, "Un monument commemoratif à ériger dans l'intérieur du Pantheon, en l'honneur des Français ayant illustré leur Pays." There is certainly a subject which rises above the ordinary commonplace of Academical competitions! The designs were to be sent in on the 23rd of December, and the award is to be given on the 9th of March next.

The new iron bridge of the Rue Caulaincourt, crossing the cemetery of Montmartre, has since a few days back been opened to the public. The number of passengers and vehicles constantly moving across shows how much the road was required which M. Alphand projected twenty-five years ago, and has now succeeded in having carried out. The bridge was opened with official ceremony on the 16th of December, and the same day the Prefect of the Seine laid the first stone of the new Mairie of the 18th Arrondissement (Montmartre). This building, of which M. Varcollier is the architect, is to be built on a rectangular plot, bounded by the Rues Hermel, Montcenis, and Ordener; the principal façade will face this latter street.

A new Mairie is also to be shortly started for the 10th Arrondissement, at the angle of the Faubourg St. Martin and the Rue Château d'Eau. For this a competition will be opened.

Another strike has interrupted the work on the Eiffel Tower; but the stoppage this time was very short, and the strikers re-entered spontaneously on their work, on the condition that the managers and provokers of the strike should be dismissed. Naturally M. Eiffel made no difficulty in accepting these terms, and work is going on harder than ever, partly in preparation for an official visit of M. le Président in February.

A fine portico has been erected at the entrance to the foreign section of the Exhibition; it is formed of a series of arches surmounted with the arms of England, and has been executed in England and erected here by English workmen. The whole has a fine architectural effect.

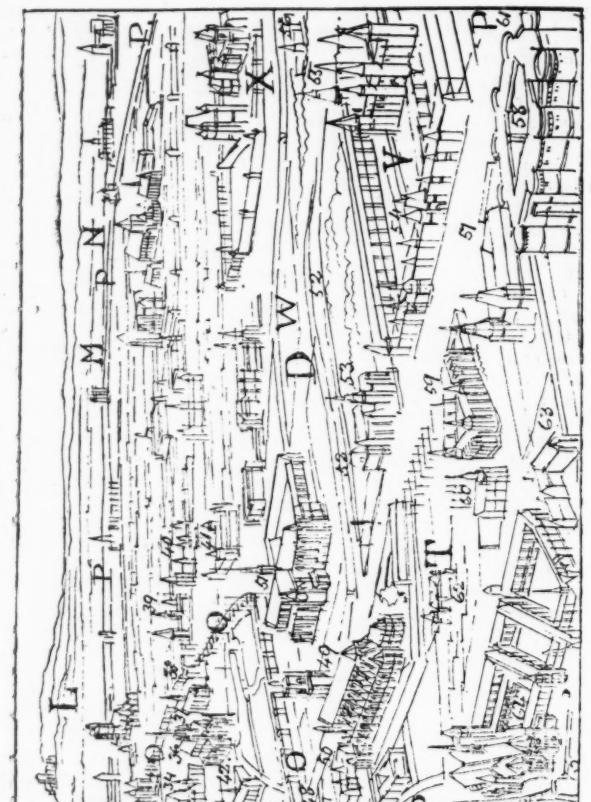
To the list of curiosities of the Exhibition we must now add the Forestry Exhibition, which is to be in the Trocadéro, but the main portion of which is actually in construction in the Forest of Fontainebleau, after the designs of M. Leblanc. The châlet, which is costing 110,000 francs, will cover a surface of 43 by 37 mètres, and will be entirely composed of wood cut in the forest, and neither planed nor shaped. It will be formed in bays of unbarked wood of varying forms and colour, and the roof also will be in wood. The great variety of species of trees that grow at Fontainebleau will enable the designers to give a very artistic and picturesque effect to this rustic edifice.

A good many private exhibitions have been open during the last few weeks of the year. Among the most interesting may be mentioned that of M. Paul Lazerges, the orientalist painter, who has desired for the last time to present to the public an exhibition of his collected works, which consists of eighteen pictures and a number of studies. They afford some remarkable examples of studies in colour-effect. M. Lazerges has a perfect acquaintance with Algeria, whence he has drawn many subjects for pictures, which have always attracted attention in the Salon exhibitions. We may mention especially "Femmes Kabiles portant des herbes," "Une rue de Blidah," "Une Caravane dans les Dunes," and "La Baie d'Alger au clair de lune."

The death is announced of the painter Ferrogio, at Paris, at the advanced age of eighty-four. He was born at Marseilles, and studied in the *atelier* of Gros, but failed to win the Prix de Rome in 1833, and turned towards drawing and lithography, in which he had more success. His albums of models have become classics in school instruction in drawing. He produced also a great number of water-colours, pastels, &c., of which many have figured in recent Salon exhibitions.

There has been another sudden death among the municipal corps of engineers of Paris; that of M. Allard, "Directeur de la voie publique, des promenades, du plantations, et de l'éclairage." He is the fifth engineer of eminence whom the administration has lost in the space of three years, and was one of the last representatives of the eminent corps of engineers who contributed so largely to the embellishment and sanitation of Paris. M. Allard was born in 1852; he passed through the course of the École Polytechnique, and thence entered the "École de Ponts et Chaussées," which he quitted in 1857, with the grade of "Ingénieur Ordinaire," He entered the service of the municipality in 1864, was made Ingénieur-en-Chef in 1878, and directed, among other large works of public improvement, the construction of the Boulevard Malesherbes, the Boulevard St. Germain, and the Avenue de l'Opéra. He was promoted subsequently to the rank of "Inspecteur-Général," the highest rank attainable in the career of a French Government engineer. His death leaves a great gap in the Direction des Travaux, at Paris; he was one of the most energetic and experienced of the agents who have worked under M. Alphand, who has successively seen all his principal collaborators disappear.

New Year's Honours.—In the list of "New Year's Honours" occur the names of Sir Frederick Bramwell, to be created a baronet, and of Mr. F. W. Stevens, of the Public Works Department, Bombay, and architect of the new Railway Terminal Buildings, which we illustrated a little while back, who receives the order of Companion of the Indian Empire.



KEY TO LARGE PLATE, "PARIS IN THE TIME OF FRANCIS I."

A. La Cité
B. L'Université
C. La Ville
D. Le Marais
E. L'Ile de Notre Dame
F. Ile des Vaches
G. Faubourg St. Victor
H. Faubourg St. Jacques
I. Faubourg St. Germain
K. Faubourg St. Honoré
L. Montmartre
M. Faubourg St. Denis
N. Faubourg St. Martin
O. Wall of Philippe August
P. P. Wall of Charles V.
Q. Cloître de Notre Dame
R. Le Mont Ste. Geneviève
S. L'Abbaye de St. Victor
T. Site of the Palace of St. Paul
V. Palace of Les Tournelles
W. Coulture Ste. Catherine
X. Le Temple

1. Notre Dame
2. Bishop's Palace
3. Hôtel Dieu
4. St. Denis du Pas
5. Tower of Dagobert
6. St. Aignan
7. St. Bartelmi
8. St. Pierre aux Bœufs
9. Palais of St. Louis
10. Ste. Chapelle
11. The Louvre
12. St. Germain L'Auxerrois
13. Hôtel de Bourbon
14. Hôspital des Quinze Vingt
15. St. Honoré
16. The Great Châtelet
17. St. Opportune
18. St. Jacques La Boucherie
19. St. Eustache
20. Church and Cemetery of the Innocents
21. Ste. Marie Egyptienne
22. Place de la Grève, and Church of St. Jean
23. Hospital St. Esprit
24. Les Handrietts
25. St. Gervais
26. Hospital of St. Gervais
27. St. José
28. Cemetery of St. Jean
29. St. Méderic, or Merri
30. St. Sepulchre
31. St. Magliore
32. St. Leu
33. Old Port St. Denis
34. St. Avoye
35. St. Croix
36. Notre Dame des Blancs Manteaux
37. Notre Dame and St. Claude de Braque
38. Hôtel du Praque
39. Hôtel de Clisson
40. Hôtel D'Estre
41. Hôtel Barbette
42. Les Billettes
43. Petit St. Antoine
44. L'Ave Maria
45. Hôtel de Sens
46. Tour Barbeau
47. Port St. Paul
48. Port Baudoyer
49. Church of St. Paul
50. Hôtel du Prévôt de Paris
51. Priory of St. Catherine du Val des Ecoliers
52. Egout St Catherine
53. Hôtel d'Angoulême
54. Tilt Yard of the Palace of Les Tournelles
55. Park of Les Tournelles.
56. Hôtel de Vitri
57. Hôtel de Brienne
58. Bastille
59. Hôtel de Mayenne
60. Hôtel de Petit Muse
61. Port St. Antoine
62. Hôtel de Beautrellis
63. Petit Arsenal
64. Convent and Church of the Célestines
65. Grand Arsenal
66. Stowage for Firewood
67. Port St. Bernard
68. Prison of Les Tournelles
69. College of S. Michel
70. College of the Bernardins
71. College of Cardinal Lemoine.
72. Collège des Bons Enfants
73. Port St. Victor
74. St. Nicholas de Chardonet
75. Great Carmelite Convent
76. St. Julien le Pauvre
77. Collège de Beauvais
78. St. Jean Lateran (Knights of St. John)
79. Maturins Church and Convent (Trinitarians)
80. Hôtel de Cluny
81. Petit Châtelet
82. St. Benoit
83. College of La Sorbonne
84. Collège de Navarre
85. Collège de Poncours
86. St. Etienne du Mont
87. Abbaye de Ste. Généviève
88. Hospital of St. Jacques du Haut-Pas
89. Chartreux (Carthusians)
90. Jacobins (Dominicans)
91. St. Etienne des Grès
92. Collège de Cluny
93. Collège d'Harcourt
94. Hospital of St. Germain
95. St. Sulpice
96. Cordeliers (Franciscans)
97. Prison of the Abbaye
98. Abbaye St. Germain des Près
99. St. Severin
100. St. André des Arts
101. Tour de Nesle
102. Great Augustinians' Church and Convent

Illustrations.

PARIS IN THE TIME OF FRANCIS I.

THE buildings shown in this restoration, by Mr. H. W. Brewer, of the aspect of Paris in the time of Francis I., are described in the first article in this issue; and a key to their names is appended on this page.

THE IMPERIAL INSTITUTE,

WE gave a view of the selected design for the Imperial Institute, by Mr. T. E. Collcutt, at the time of the competition. The present illustration, however, is reproduced from a larger and finer drawing, and on a larger scale, and includes also some final modifications in the upper portion of the tower, made since the design was accepted in competition.

The drawing from which the illustration is taken was exhibited in the Architectural Room at the Royal Academy, last year. As the best illustration that has yet been made of the most important building in progress in England at present, we thought it an exceedingly good subject for the first number in a New Year. We have to thank Mr. Collcutt for kindly lending the drawing for illustration.

THE MONUMENT TO GAMBETTA, PARIS.

THIS monument was the result of a public competition. It has been erected in the Place du Carrousel, on the axis of the ancient Palace of the Tuileries, and opposite the Arc de Triomphe, constructed under the First Empire before the railings of the Palace.

The designs appear to have been each produced in the competition by an architect and a sculptor acting in concert. Those who were invited to join in the second and final competition were the following:—

Architects.		*Sculptors.*
M. Faure Dujarrie	and	M. Dalou,
M. Pujol	,,	M. Falguière,
M. Lambert	,,	M. Coutan,
M. Boileau	,,	M. Aubé,
M. Laloux	,,	M. Tujalbert,
M. Dutert	,,	M. Allar.

The result was that M. Boileau was commissioned to execute the architectural portion of the work, and M. Aubé the sculpture.

M. Boileau had exhibited no less than four different designs, with various more or less allegorical ideas and varying architectural arrangements.

The one executed, and which forms the subject of the engraving (by Mr. J. D. Cooper) published with the present number, has been considerably modified in execution, and, in fact, includes details adapted from the architect's other three designs.

The monument, which was inaugurated in July last year, measures nearly 19 métres in height without the crowning group; the figure of Gambetta himself is 3½ métres in height. It is a fine and energetic figure, but being in the same stone as the pyramid or stele behind it, hardly detaches itself sufficiently from the background. The pyramid is almost entirely covered with inscriptions from the writings of Gambetta or from the most remarkable of his speeches.

The two large figures seated at the base, to left and right, represent respectively "La Force" and "La Vérité." On the opposite face from the spectator there is a decorative group of "attributes" and garlands, &c. Two seated figures of children holding each other's hands represent "L'Egalité," and two sculptured heads on the pyramid represent "La Fraternité." All these are in bronze, as also the figure of "Democracy" seated on a lion, which forms the crowning group.

It was at first intended to have placed the monument at the junction of the boulevards of Belleville and Menilmontant, on the west of the Rue Oberkampf, a position suggested in reference to the popular and democratic origin of Gambetta's political career; but on the State consenting to grant the site on the Place du Carrousel, the previous idea of this rather out-of-the-way site was abandoned.

LICHFIELD CATHEDRAL: WEST FRONT.

LICHFIELD CATHEDRAL, dedicated to the Virgin and St. Chad, though one of the smallest in England, is of especial interest, for at least two reasons. It is, namely, complete with three spires, and it has the feature so excep-

tional in England of a polygonal termination to the choir. Its chief dimensions, as ascertained by Sir Gilbert Scott, are:—Nave, 139 ft. by 64 ft. 7 in., and 60 ft. high; choir and presbytery, 137 ft. 3 in. by 27 ft. 9 in.; transept, 149 ft. by 28 ft.; lady-chapel, 53 ft. 8 in. by 27 ft. 9 in.; height of the central spire, 249 ft.; and of the western spires 195 ft. The design of the west front somewhat resembles in its *motif* that of Wells Cathedral,* and is something between the usual composition of a central gable with flanking towers, as at Canterbury and York, and the elaborate architectural screens of Lincoln and Salisbury. In this case the towers and spires form an essential part of the design, notwithstanding that the lower portion is treated on the other principle. The result, like that of most compromises, must be characterised as only moderately successful. There is a decided loss of character, as might be expected, emphasised by the prevailing horizontal lines of the lower portion and the vertical lines of the upper part contending to give the chief expression to the composition: the breadth of the one and the aspiring character of the other destroy one another. This failing apart, one must admire extremely the fine and rich design of the several series of niches and canopies, and the breadth and simplicity which the designer has contrived to combine with richness by contenting himself with small variations on one theme, instead of trying to show his cleverness and originality by mixing several. The west front, complete with its spires and arcading, dates from *c.* 1275. It was "restored" and all the absent and faulty figures in the niches were replaced in 1820-22, *in Roman cement*. Since 1877 a re-restoration in stone has been proceeding, but, as far as we can understand, no architect has been employed, and, apparently, the new figures have been placed, in most cases, with but little regard to any comprehensive system.

The illustration is reproduced from a fine drawing by Mr. Arnold B. Mitchell.

THE CLARENDON BUILDING, OXFORD.

THIS is reproduced from a pencil drawing by Mr. John Fulleylove. For further remarks in regard to it see the article on "Illustrations of Oxford," in another column.

MEMORIAL BRASS TO THE LATE ARCHBISHOP TRENCH.

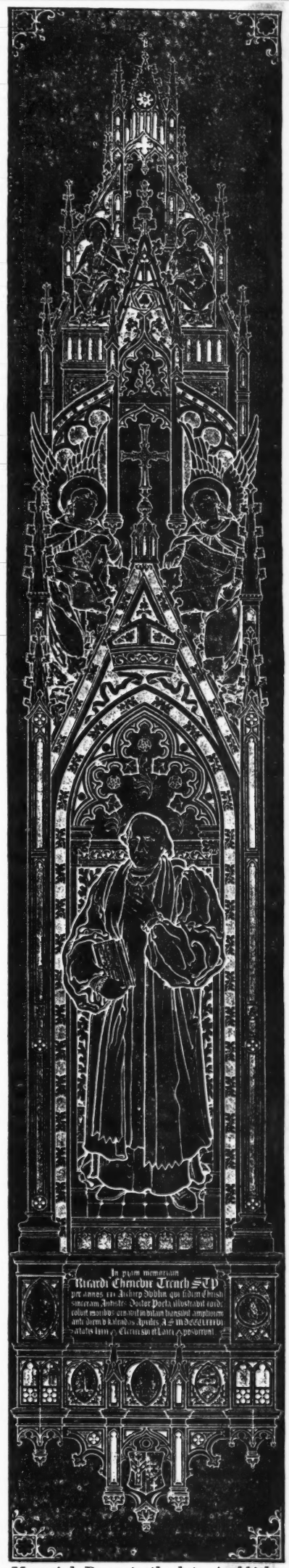
THIS memorial brass, which is 12 ft. in height, was fixed in the early part of last year in Christ Church Cathedral, Dublin, in memory of the late Archbishop. It is the work of Messrs. Heaton, Butler, & Bayne, from a sketch by Mr. Drew, R.H.A., the architect to the Dean and Chapter, and embodies ams, seals, and devices supplied from Dublin, and drawn in detail by Mr. R. C. Orpen. A sketch for the head of the Archbishop was contributed by Sir Thomas Jones, P.R.H.A.

The following Latin inscription is placed on it:—"In piam memoriam Ricardi Chenevix Trench, S.T.P., per annos xxi. Archiep. Dublin, qui fidem Christi sinceram, Antistes, Doctor, Poeta illustravit corde, colvit moribus, ornavit in vitam transivit ampliorem ante diem v. kalendas Apriles A.S. MDCCCLXXXVI. aetatis lxxix. Clerici sui et Laici posuerunt."

The figure of the Archbishop is vested in his customary robes, and stands under a crocketted canopy; above the head of the figure two winged angels bear on shields the arms of the dioceses of Dublin and Glendalough, and of Kildare respectively. The cross surmounting the tympanum of the canopy is a representation of the famous Cross of Cong. In niches in the upper part of the canopy are represented two typical bishops of the ancient church in Ireland, viz., St. Patrick bearing the Episcopal *Baculus* in its simple Irish form, and St. Laurence O'Toole bearing the crozier of an archbishop, the latter prelate being appropriately introduced in a connexion with such a monument in historic Christ Church Cathedral, as identified with the fusion of the Irish church with the English connexion, and the founder, with the English invaders, of this principal church of the principal see of the English Pale.

The inscription, as will be seen, is on a podium or panel beneath the feet of the Archbishop's figure. Among the devices introduced in this part of the design are the arms of Trench, with, as a pendant, the seal of the Abbey

* See *Builder*, Vol. liv., p. 213.



Memorial Brass to the late Archbishop Trench.

Church of Westminster, of which Dr. Trench was for some years the Dean. Below are reproduced genuine representations of the seals of the Cathedral churches of St. Patrick, Dublin, the Holy Trinity of Christ Church, and St. Brigid's of Kildare. Lowest down, prominence is given to the arms of Archbishop Trench impaled with those of the diocese of Dublin.

The work is executed in a richly-toned brass "laten," an old alloy revived by Messrs. Heaton, Butler, & Bayne, as being for memorial purposes less liable to corrosion.

THE SLATE TRADE IN 1888.

TRADE has been fair, and inquiries good during the past year; but prices have been kept down by competition between the different quarries.

Prices for the 1st January, 1889, have at length been fixed.

At the Dinorwic and Penrhyn quarries a slight advance has been made in some of the large sizes.

At Carnarvon the present lists continue in force, the discounts being curtailed, and an arrangement is in progress to curtail them still further on the 1st of March, by which date it is anticipated that the stocks of small sizes will be entirely cleared.

At the Festiniog quarries prices of some sizes of best have advanced, but some of the mediums have been slightly reduced.

According to the last Government returns, there is an increase of over 10,000*l.* value in the make of slates, and it is a remarkable fact that out of 1,050,000*l.*, the total value of slates produced in Great Britain, over 1,000,000*l.* worth are quarried from the well-known Bangor and Festiniog veins, lying in a comparatively small area in Carnarvonshire and Merionethshire, and held by comparatively few companies or private individuals.

The export trade has improved very slightly, the protective duties in the United States being still heavy enough to crush any trade with that country.

For home use inquiries are good, and, with a slight improvement in trade, prices would advance considerably. The system of carrying on the slate trade has completely altered within the last few years; merchants, instead of keeping large stocks, now order by rail only when slates are actually required. This has also seriously affected the coasting trade, freights for some years having been so low that it did not pay to build vessels.

No new quarries have been opened during the year, but one or two small ones that had stopped have been re-opened, and the celebrated Palmerston Quarry has ceased to exist as an independent Company, having been absorbed by the Oakeley Company after a long and costly arbitration.

ROYAL ACADEMY:

ADMISSIONS TO THE ARCHITECTURAL SCHOOL.

MR. R. PHENÉ SPIERS, the Master of this School, sends us the following list of the January admissions of Students:—

Upper School.

H. Baker.	A. N. Wilson.
A. H. Hart.	

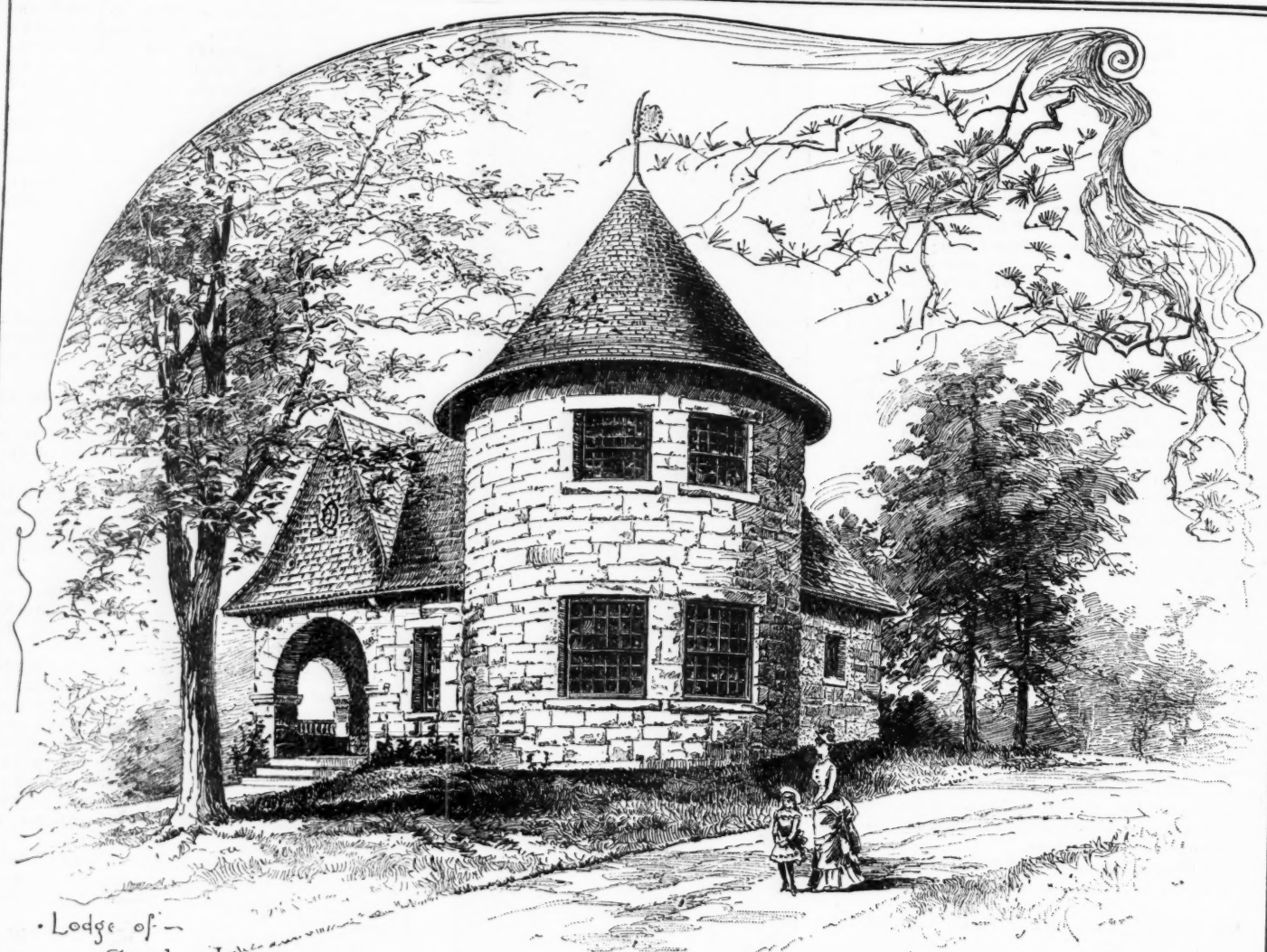
Lower School.

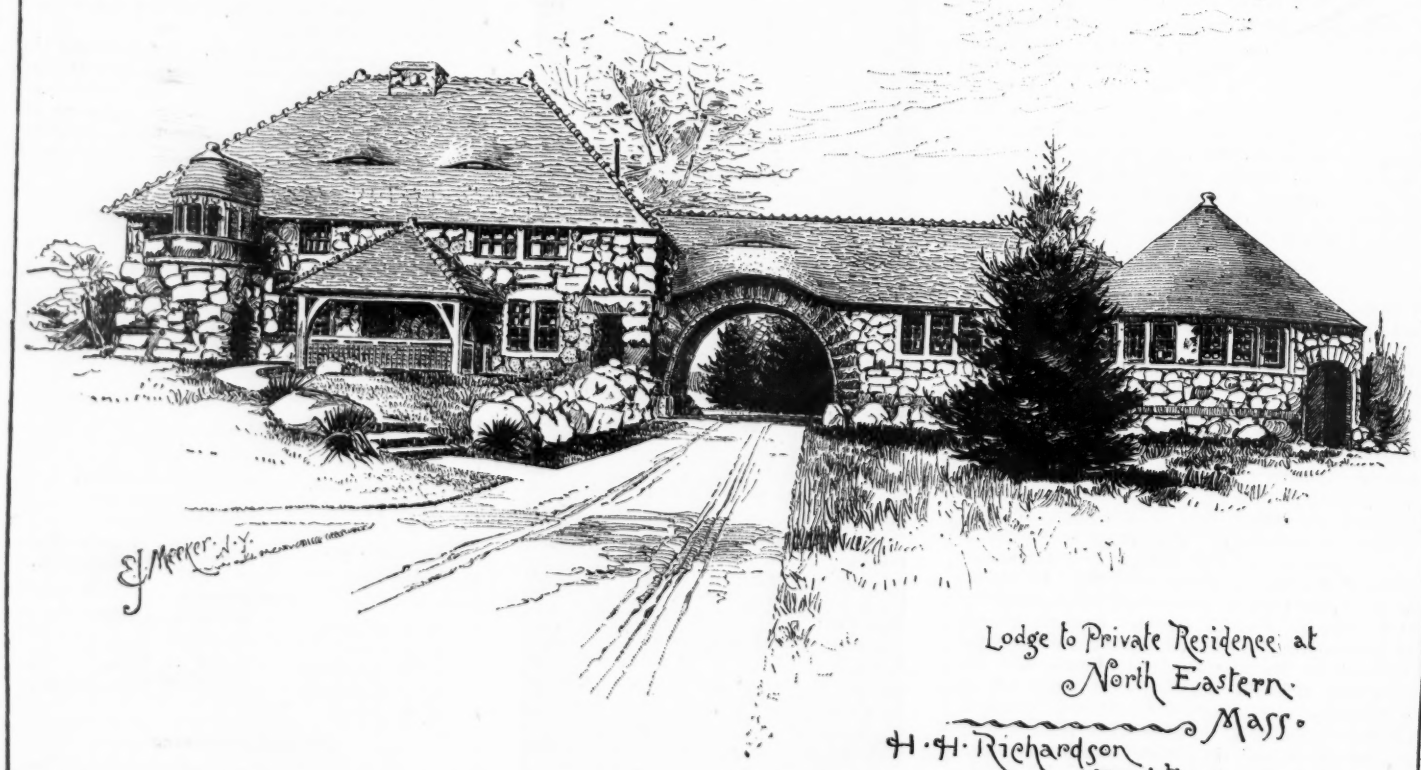
J. W. Bedford.	A. M. Poynter.
W. A. Fenn.	J. Rawlinson.
J. W. Little.	F. E. Smee.
J. G. Oakley.	E. W. Wonnacott.
J. Paxton.	P. C. Worthington.

Probationers.

H. P. Adams.	R. B. Pratt.
F. A. Coles.	W. S. Taylor.
A. W. Hocking.	A. F. Usher.
W. C. Howgate.	H. A. Woodington.
H. E. Kirby.	

New Synagogue for Manchester.—The *Manchester Courier* says that operations will shortly be commenced for the erection of a new Jewish synagogue and Beth Hamidrash in that city. An eligible site has been secured in York-street, Cheetham, adjoining the Cheetham Branch Free Library. The structure will be erected from designs prepared by Mr. W. Sharp Ogden, architect, the contractors being Messrs. Robert Neill & Sons, Strangeways.





Two American Lodges.

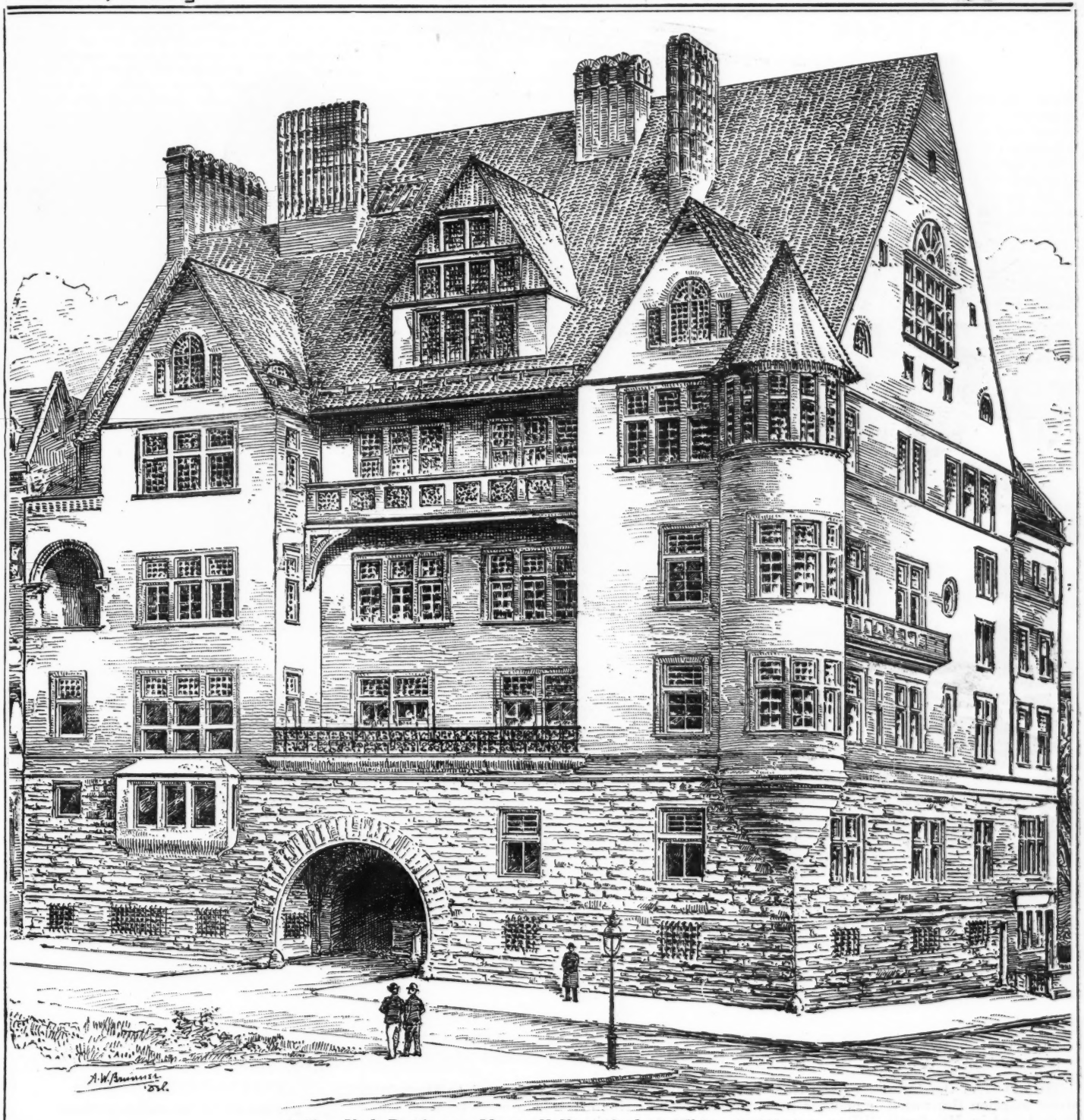
TWO AMERICAN LODGES.

THESE illustrations speak for themselves: they are examples of picturesque treatment of unpretending lodge architecture. One of them is by the late eminent American architect, Mr. H. H. Richardson.

A NEW YORK MANSION.

THIS rather remarkable-looking house, which not many years since would have been supposed to come from any part of the world rather than the United States, was built from the designs of Messrs. McKim, Mead, & White, and stands at the corner of Madison-avenue and Seventy-Second-street. It was built, we believe, to accommodate several families of relatives, and is of very large size for a street residence, fronting 100 ft. each way.

The great archway in the rusticated basement leads to a central court lined with glazed brick.



A New York Residence.—Messrs. KcKim, Mead, & White, Architects.

The wall above the basement is of brick, which appears to have been specially made of thin proportions, and somewhat like Roman brick. The general colour of the walls is a kind of golden brown, but not uniform, uniformity of colour being rather purposely neglected.

COMPETITIONS.

Castleford Board Schools.—We are informed that at a meeting of the Castleford School Board, held on Dec. 31, the plans submitted in competition for the proposed new schools in Temple-street were under consideration. It was decided to adopt those sent in by Mr. William H. Thorp, A.R.I.B.A., of Leeds. The building is intended to accommodate 500 children, viz., 300 in the mixed school and 200 infants. The style of the proposed school is Gothic of a Romanesque type.

Failures in 1888.—According to *Kemp's Mercantile Gazette*, the "gazetted" failures in the building and timber trades in 1888 were 785, as compared with 761 in 1887, 712 in 1886, and 663 in 1885. It would thus seem that 1888 shows a bad pre-eminence. May the figures for 1889 be indicative of greater prosperity in the building trades.

LIVERPOOL ARCHITECTURAL SOCIETY.

IN the *Builder* of the 1st ult. (page 392) we alluded to Professor Hele Shaw's intended special course of lectures in connexion with this society, and in view of the Examination in Architecture to be held in Liverpool by the Institute of Architects in February. We regret to learn that the necessary number of names (ten) were not forthcoming. But we are glad to see that Professor Hele Shaw has allowed Mr. Culshaw to issue the following circular referring to this usual Lenten course, and that it has met with a warm response. We are asked to say, however, that Professor Hele Shaw will be pleased to have some more replies. Communications on the subject may be addressed to him at the Engineering School, the University, Brownlow-street, Liverpool, or to Mr. Alfred Culshaw, Union-court, Castle-street, Liverpool. The following is the circular:—

University College, Liverpool.

ENGINEERING.

Professor H. S. Hele Shaw, M.Inst.C.E., M.Inst.M.E.

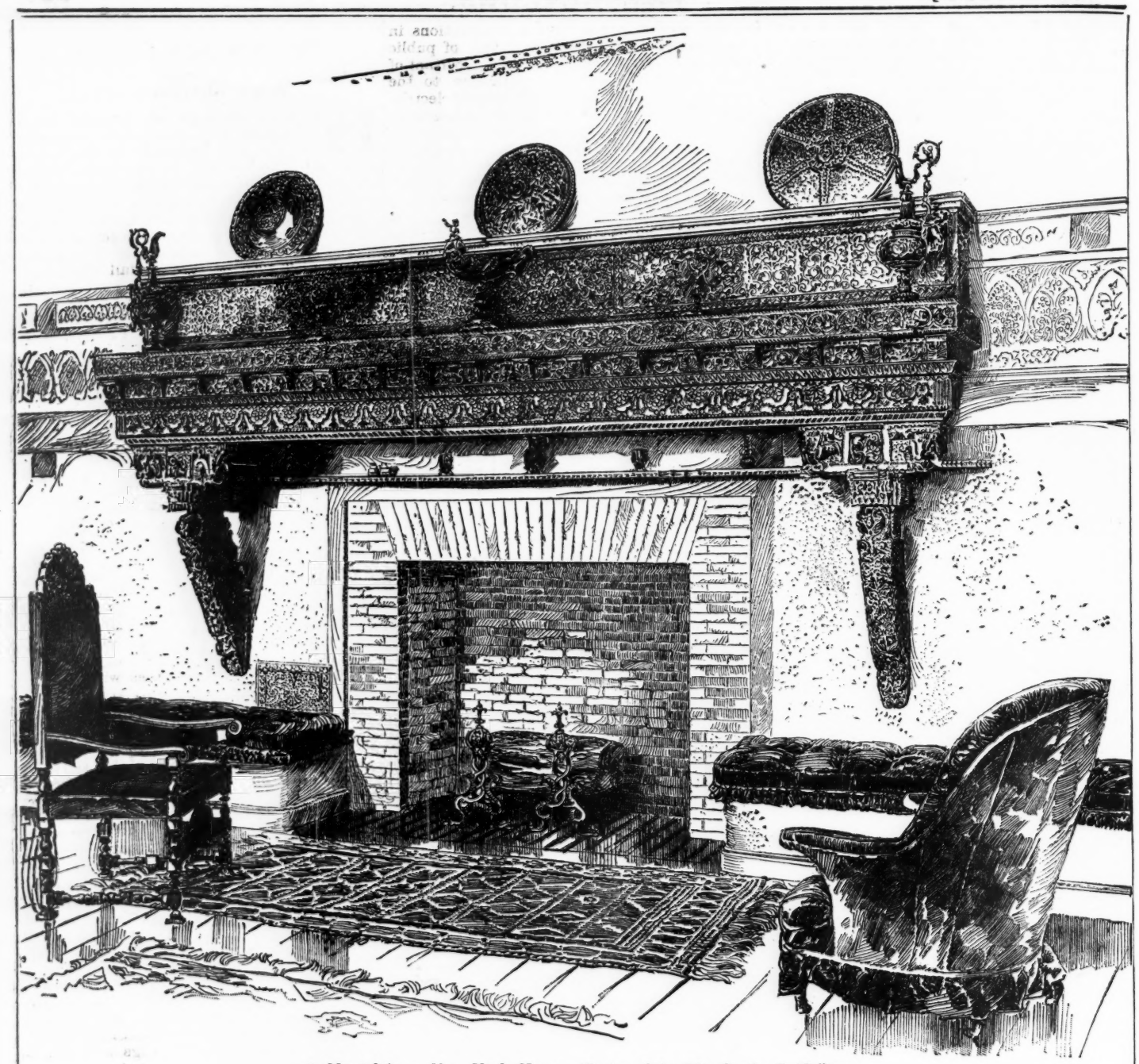
Materials and Construction.

A course of five elementary lectures will be delivered during the Lent Term as follows:—

(1) Friday, Jan. 25. 8 p.m. The Properties and Preservation of Timber.
(2) Friday, Feb. 1. 8 p.m. Iron and Steel.
(3) Friday, Feb. 8. 8 p.m. Natural and Artificial Stones and Cements.
(4) Friday, Feb. 15. 8 p.m. The Strength of Beams and Girders.
(5) Friday, Feb. 22. 8 p.m. The Stability of Walls.

These lectures will be specially adapted for civil engineers, architects, and builders, and will cover, as far as possible, the ground of the Examination in these subjects of the Royal Institute of British Architects to be held in Liverpool at the end of February. At the same time, a very slight knowledge of technical details will be assumed, so as to make the lectures suitable for engineering students in general. Fee for the course, 5s.

The Art Union of London Print for 1889.—For their print for this year, the Council of the Art Union have secured the right to engrave a picture by Mr. W. F. Yeames, R.A., now in the Walker Art Gallery in Liverpool, entitled, "True and Loyal (and when did you last see your father?)." A number of Cromwell's Ironsides have invaded the mansion of a Royalist, and are desirous of getting possession of his person, and are examining some members of the family in order to extort information as to his whereabouts. At the moment represented in the picture, a pretty little boy, probably the heir of the house, is being interrogated by some of the civilian members of the band, with a view to entrap him into disclosing how long it was since he had seen his father, hoping thereby to get an idea as to the length of time during which he had an opportunity of escaping. The picture has been well reproduced by Goupil-gravure.



A Mantel in a New York House.—Designed by Mr. Louis C. Tiffany.

A MANTEL IN A NEW YORK HOUSE.

THIS is from the interior of the New York street mansion illustrated on another page. It is designed by Mr. Louis Tiffany, we presume a member of the family of that name to whom the house belongs. As will be seen, it is, in fact, an application of Indian detail over a European (or American) form of fireplace.

BOYLE'S IMPROVED AIR-INLETS.

THE accompanying diagrams illustrate the latest improved air-inlet brackets and wall panels made by Messrs. Robert Boyle & Son, and used in conjunction with their latest-improved patent self-acting air-pump ventilator, which, we are informed, has been awarded the Gold Medal by the jurors on ventilation at the Brussels Exhibition, where it was practically tried on various parts of the Exhibition buildings.

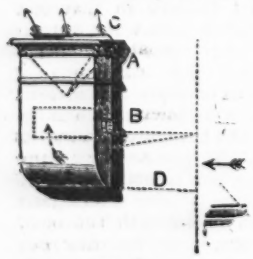


Fig. 1.

Fig. 2.

Fig. 1 shows a plain air-inlet bracket, fitted with air-filter A, regulating valve B, and deflecting shield C, to prevent the wall being soiled by the incoming air.

Fig. 2 shows an air-inlet panel to fit against the wall, having movable front to regulate inlet of the air, and fitted with air-filter as shown in section fig. 3. Fig. 4 is a section of panel having no movable front or projection, fitted with regulating valve C, and water-trough E, to wash, cool, and purify the air. Fig. 5 is a front view of panel. This form of panel is also made without the water-trough.

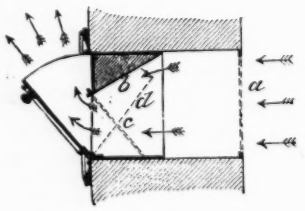


Fig. 3.

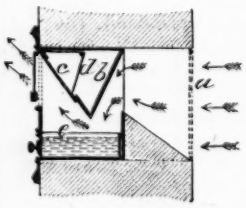


Fig. 4.

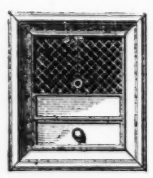


Fig. 5.

These appliances are made in a variety of other styles, plain and ornamental.

DISCHARGE OF MANUFACTURING REFUSE INTO SEWERS:

INTERESTING TO GALVANISERS.

THE *Wolverhampton Chronicle* of the 26th ult. reports at length a case of considerable importance to the manufacturers and public generally, which came before the Stipendiary Magistrate (Mr. N. C. A. Neville) at the Wolverhampton Police Court on the 21st ult. It was brought forward at the instance of the Sewerage Committee of the Corporation, before whom in the first instance an analysis of a sample of galvanisers' waste acid, containing galvanising pickle, was submitted, and who, in the second place, were empowered by the Council at the last meeting to take the present proceedings. The summons was issued on the complaint of Richard Evans Willoughby Berrington, Borough Surveyor, who stated that Frederick Evans, galvaniser, of Stewart-street, on the 23rd day of November, did unlawfully cause and suffer certain refuse, to wit waste, and known as "pickle," from his manufactory and works, situate at Wolverhampton aforesaid, which was destructive of and injurious to vegetation, and which interfered with the utilisation of the sewage of the borough, to flow and pass into a certain drain communicating with a certain sewer of the Corporation of the borough of Wolverhampton, situate in Stewart-street, in such manner that the same refuse was carried by, through, and out of such drain into such sewer as aforesaid.

The Town Clerk, in opening the case, said that the proceedings were taken out under the Wolverhampton Improvement Act, section 95. Having cited the section, he proceeded to say that it was with considerable regret that the Corporation had found it necessary to take proceedings against any manufacturers in the town. He was sure that they had no desire whatever to interfere with or harass manufacturers or the trade which they carried on, but in consequence of the

enormous difficulties met with in connexion with the disposal of the town sewage, the Corporation felt that the time had now arrived when, if the manufacturers neglected to assist them, they must, in order to protect their interests, enforce the law against them. He had given the defendant three separate notices to abate the nuisance, and every opportunity to execute certain work with a view to destroying the obnoxious qualities of the acids used in his works. He had no desire to ask for a heavy penalty in this case. It was not so much for the recovery of a heavy penalty that this case was brought forward, but that an order might be obtained to compel the defendant to abate the nuisance. They did not press for a heavy penalty, but he should like the Stipendiary to fix a day by which something should be done, and if the work was not done, that then the continuing penalty should run.

Robert Franks, a messenger in the employ of the Borough Surveyor, deposed to taking a sample of the liquid which left the defendant's works, and which he took to the Borough Analyst.

Mr. Jones, Public Analyst, said he had analysed the sample mentioned. It was untreated galvanising pickle, except that it was very slightly diluted with water. One third of the whole acid was unused or free. This refuse, which would run into the sewers, would have the effect of destroying the cement or mortar of the joints of the sewers. It was deadly to vegetation, and would render the utilisation of the sewage of the town very difficult and expensive.

Cross-examined: He was strongly of opinion that no limestone had been used in this case. The introduction of lime would kill the free acid, but it would not precipitate the iron. Quicklime would have to be used for this purpose.

This was the case for the prosecution.

Mr. Lawrence, for the defence, said that as soon as Mr. Evans received the circular calling upon him to construct duplicate tanks and use limestone, he provided these necessaries, and they had since been regularly used. He was willing and anxious to do all he could to meet the Corporation in this matter, and whatever was required to be done should be done forthwith.

The Stipendiary said there would be a fine of 5s. and the costs, and he would fix January 18th as the limit after which the continuing penalty would run. If there were any breach after that date, defendant could be summoned again for every day he allowed the nuisance to continue, and the hearing could take place before him or any other justice.

"CHURCH-BUILDING NEWS: EPSOM."

SIR,—There must have been a slip in the report of the local paper (as you evidently suspected) from which the particulars given in your last issue under this heading were taken.

The cavities in the walls were not caused by the decay of "two *tombs*," but of two bond *timbers* behind the dado framing.

The timbers were 9 in. by 3 in. and 4 in. by 3 in. respectively, and were built into the walls all round the church.

The larger timber occupied just half the thickness of the aisle walls, and when exposed little more of it remained than dust.

H. M. & W. GRELLIER.

ELECTRIC LIGHTING NEWS.

London.—It is announced that the Board of Trade, by virtue of the powers vested in it by the Electric Lighting Act of 1882, has decided to refuse the whole of the applications that have been made to it to grant licences for the supply of the electric light to any part of the metropolis. The effect of this decision is that all applications for supplying the electric light to any part of the metropolis will have to be sought by means of Provisional Orders, which, if granted by the Board of Trade, will have to receive the sanction of Parliament before they can become operative. All Provisional Orders that may be granted will, therefore, be embodied in a Confirmation Bill and referred to a Select Committee, before whom opponents will be heard.

Birmingham.—The *Birmingham Gazette* of Wednesday last says that the sub-committee (of the Town Council) which was appointed by the General Purposes Committee to consider the proposed Provisional Order for lighting a considerable area in the centre of Birmingham with electricity, will, it is expected, report in time for the matter to be discussed at the next, or, failing that, at the February meeting of the Council. The provisional order has been applied for by Messrs. Chamberlain & Hookham, and the area in respect of which compulsory powers are sought, consists of about ·203 of a square mile, or about 130 acres. On the whole, the *Gazette* believes the report will be not unfavourable to the scheme, but a number of conditions in the interests of the ratepayers and of public safety will be imposed. The most important of these conditions will have reference to the question of overhead *versus* underground electric-lighting wires. There is a general consensus of opinion that overhead wires, whether for electric lighting, telephoning, or telegraphic purposes are more or less objectionable. They are unsightly, and they are a source of danger. In the case of overhead electric-lighting wires there is a considerable difference of opinion as to the character and urgency of the objections alleged against them, but even those who are most inclined to take a lenient view with regard to them admit that underground wires are much better, and must be eventually adopted. The question, therefore, is really,—shall overhead wires be permitted for pioneer or experimental purposes, or must all electric-lighting undertakers be forced at the outset to take the roads up and lay their wires underground? The matter is of the highest importance, because, on the one hand, the public may be placed in jeopardy; while, on the other, there is the danger of greatly handicapping electrical enterprise, if not of stopping it altogether.

The Cape steamer "Roslin Castle" has lately been fitted with a complete installation of the electric light. Every cabin (first, second, and third class) has a lamp which can be turned off at will by the passenger, who has simply to touch a switch at the side of his berth. The saloons and other reception-rooms are brilliantly lighted, the cut crystal globes in the principal saloon and the dainty lamps in the ladies' boudoir being worthy of especial mention. Very powerful electric signal lights have been fitted.

A New Electric Safety Lamp.—A miner's safety lamp, made by the Mining and General Electric Lamp Company, of Coleman-street, E.C., has been in use for over nine months in a number of North of England collieries. The *Times* says that the incandescent lamp employed gives a light of one standard candle during twelve hours. The current is derived from a small lithanode accumulator of two cells, giving an electromotive force of four volts. Lithanode, a form of plate for accumulators, introduced by Mr. D. Fitzgerald, is a hard conductive peroxide of lead. A lithanode accumulator, the latest form, weighing 70 lbs., has a capacity of one horse-power-hour, whereas an "E.P.S." accumulator of the same capacity weighs from 133 lb. to 135 lb., according to the type. The two cells of the lithanode accumulator weigh about 5 lb., but it is hoped that this weight will be still further reduced. They are charged by a dynamo for five hours before using. The battery case is made of birch wood, rendered acid and water-proof by a special process. The cover of the incandescent lamp is of toughened glass, which, on being broken, shivers into small pieces, thereby allowing a lever inside the cover to drop down and cut off the current instantly. This device is adopted in order to prevent the exposed filament causing an explosion in contact with fire-damp in the atmosphere of the mine. The cover can be locked with a lead plug, which, in the event of the miner being entombed or forcibly detained in the mine, can be picked out, so that the cover may be removed and the current cut off to husband the light. Under ordinary circumstances, however, the miner does not interfere with the apparatus. There is no switch to turn the light on or off at will; the action of putting on the cover lights the lamp, and the miner cannot put it out except by breaking the sealed plug. The lantern can be turned upside down without affecting the light or battery, and it may be held at any angle. The cost of the light is stated to be about 2½d. per lamp per week.

The Gritten Memorial Fund.—We are asked to mention that owing to the shortness of the notice, and the fewness of the members, Mr. Usill has kindly consented to postpone his lectures on "Iron Construction" (in behalf of the Gritten Fund) until Tuesday, Jan. 8, and Thursday, Jan. 10, at 5·30 p.m., at 11, Delahay-street, instead of on the dates as advertised in our last issue. The fee for the course is half a guinea. (See advertisement in last week's *Builder*.)

The Lyric Theatre.—Anent our recent description of the new Lyric Theatre, we are asked to mention that Messrs. Smith & Turner's "Ben Turner's" new patent "Silent" door-springs were used in the building.

The Student's Column.

TOWN DRAINAGE.—I.

IN town drainage we include house drainage with the public sewerage. The sewage delivered by the house-drains into sewers finds its way by gravitation to its outfall, and usually there is one outfall for a whole town. Sewage, in the following articles, will mean that heterogeneous liquid which consists of the waste water of houses and all the refuse it carries with it, together with that portion of the rainfall which runs into sewers from the surfaces of streets and the roofs and premises of houses. Since towns have extended so far beyond the old limits, difficulties with the drainage have arisen, both with the town as a whole and with the separate houses; for, whereas formerly the sewer was short, it is now in many cases of great length, and that alters the state of things in relation to both the sewer itself and the house-drains connected with it.

It is one of the things which contribute to the foul air of sewers. A great deal is heard of this foul air, and, moreover, a great deal has been suffered from it. But sewers are not all alike in this respect: they may not be so even in the same system of sewers which forms the sewerage of a town, or of a district of a town. It may be that they have not been designed and constructed at one time, but at different times as occasion has required, and this of itself would have an effect upon the general house drainage, inasmuch as the sewers are connected one with another throughout a town, or a district, if the town be a large one; good ones with bad, and so on. For such defects sanitary authorities are responsible, but architects are responsible for the drainage of houses designed and built under their own directions. And inasmuch as it is the house which is the place of origin of the sewage to be conveyed away, we will consider house drainage first in order. Efficient drainage is now a necessity in all buildings intended for habitation, and it cannot be wholly neglected even in those in which people congregate for a limited time only, for in these some part must be appropriated to the attendants, and it cannot be overlooked that if the air in servants' quarters in any house or other building be contaminated, it will spread its noxious influence through the whole building, whatever its dimensions be.

Not many architects, neither many engineers, can give their attention solely to the greater aspects of what they have to do, and certainly no young man can afford to neglect the consideration of these small things belonging to his profession: small, indeed, but very important. He may think, as too many have done, that somebody else will attend to these things; the builder, perhaps; or that the owner of the building will probably appoint someone to do so; or that the sanitary authority will be sure to see that the drainage is properly done. Delusions, all. It is the architect himself who must be the master in this as in everything else belonging to the building. Would he neglect to consider the proper strength of every part? Not so, unless, in the case of an extraordinarily large building, an engineer may be associated with him in the design. In all other cases the architect must be the master of the drainage; and, moreover, must do something more than lay down upon the plan all proper lines of drains, and show by sections all proper depths; he must specify exactly what he wants done, and in doing so must let those who do the work see that he knows what he does want. This is, perhaps, more necessary when the work is let by contract than when done in another way. Contractors have done a great deal of bad work, but they have sometimes had the excuse,—though they may have known better than to plead it,—that it was difficult to understand what was really required by the architect or the engineer, and they have taken upon themselves the responsibility of doing the work in their own way, in the expectation that, if not satisfactory, it could in no way be said to be contrary to the specification. As to the vague clause sometimes inserted in specifications to the effect that everything is to be done to the satisfaction of the architect, or the engineer, as the case may be, it does not stand good when disputed. It is a provision which is perhaps necessary to be inserted in a specification, but it cannot be relied upon to cover omissions of detailed in-

structions. Students of architecture will find, more perhaps now and in the future than has hitherto been usual, that buildings of nearly all kinds are never complete without efficient drainage.

There is nothing very intricate or perplexing in the principles of drainage; they lie ready to one's apprehension in the things around us, and require chiefly a due consideration of their modes of action and effects. But, although the principles are not far to seek, their application in practice is not regarded, in many cases, with the attention which the importance of the subject demands. Certainly a little patience is necessary, for it is not an inviting subject or one of the most pleasant to study; and some consideration is necessary to distinguish between those instances of practice in which the principles of drainage are recognised and acted upon, and those which are founded—if upon anything—upon precedents which can no longer be followed. When alterations are made in old houses, or when drains require examination and the ground is opened out over them, it is seen how drains used to be laid and how their attachments were formed, and these are often found to be inefficient for their purpose, and the cause of many complaints. It is not in point of size that old drains are insufficient, for a pipe 9 in. in diameter is sometimes found where one of 6 in. is sufficient, and even more than sufficient; nor is the depth at which these old drains are laid inadequate in all cases. It is chiefly in their form and the mode in which they have been laid that their defects are apparent, including the manner and situation of their terminations. It would hardly be an exaggeration to say that some of these have been altered and relaid in parts half-a-dozen times without any good effect. The money so spent in providing employment for workmen and others may have been acceptable, but it must have been unwillingly given, and, therefore, the occasion cannot have been satisfactory to either party. In such cases a little boldness in recommending a complete reconstruction would have been better. Tinkering, as it may well be called, in such cases seldom succeeds; the defects are mostly of a radical nature, and the better economy is to begin at the lowest end of the drain and work upwards The sewage, which is being continually formed, should be made to run as quickly as possible away from houses. If any one will take the trouble to investigate the causes of bad health in towns, as stated by the medical officers in their periodical reports, he will find in defective drainage one of the chief amongst them. Sanitary authorities are of course blamed for these defects, as well as for all others by which the health of persons is injured; but whatever action they may take is in a great measure ineffective if those who actually do the work of house drainage do not exercise their judgment in details. But as to details, it may be said that perfection must not be sought in minute or complicated arrangements, but in a broad simplicity of detail consistent with those principles of action which cannot be evaded without bad results. The best sewerage system which could be devised would fail in its main purpose if the drains belonging to the houses were not well laid. When persons in a particular house have suffered more than others, the question has not infrequently been asked—Who was the architect? The question is often futile, because many houses have been built without the aid of any architect. Students, however, may expect for themselves a different state of things in the future. The medical profession is much more alive now than it was formerly to the influence of that condition—or of those several conditions—of the air, which exist in consequence of defective drainage. But it is not in the medical profession only that more attention is being given to the subject, for, as common knowledge of the conditions of the air in and around houses increases, so much more is the public attention directed to this subject. The information thus acquired by people in general would probably result in wrong remedies being attempted if that information were acted upon and remedies sought thereby, and this should be avoided by preventing the creation of those conditions of the air which, everybody knows, produce sickness. Whether that leads to more serious bad health we may leave for others to determine.

The Walker Art Gallery, Liverpool.—The Autumn Exhibition of pictures here was attended by 71,500 visitors.

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

546, Window-fastener. C. C. Wright.

In a metal bolt, half-screw and half-plain, with a shoulder at the plain end, a square hole is, according to this invention, bored down the centre from the plain end. A loose piston-rod is placed therein, and at the outer end of the rod-nut is fixed. A hole is bored through the bottom sash, and the screw-bolt is so placed that the nut and plate appear on the front or inside of the sash. A screw-receiver is fixed on a corresponding part of the top sash. The sash is fastened by screwing in the nut and bolt, and is unfastened by turning in the opposite direction.

888, Draught-preventer. H. Waddington.

This invention consists in having two pieces of wood of suitable size and shape. The top piece, which is secured to the door or window, is rebated on the side next to the door to receive a bottom-piece, which projects below it. Pulleys are fixed to make the one piece run easily over the other, and springs allow of the piece sliding up when the door is opened, forcing the lower piece downward when it is closed.

1,046, Fire-grates. W. B. Redish.

The object of this invention is to conduct the combustion of the fuel without waste, and to utilise the heat given off. The fire-bars are combined with a movable bottom grate, which also serves as an ash-pan and a back, and in kitchen-ranges, rocking fire-bars and levers for actuating the same are used.

1,199, Ventilator. A. Brown.

According to this invention, an internal circular shaft of perforated zinc is enclosed in an outer shaft of larger diameter. On the outer shaft O G louvres are fixed, and the whole surmounted by a cap or roof. The vitiated air escapes through an ornamental pierced opening fixed at the bottom end of the shaft and level with the ceiling, and ascends,—by reason of its higher specific gravity,—to the upper portion of the shaft and out by the louvres. After being cooled and purified by the cold air coming in by the lower louvres, it re-enters the room by the same opening. Thus a constant stream or circulation of air is kept up.

1,238, Valves for Water-closets. J. Anderson.

A valve, self-acting both in opening and closing, is designed by the inventor for use in closets, &c. It acts by means of a tubular valve-rod working in a float-chamber. When the closet is at rest the discharge-pipe is closed by the valve, and a sufficient supply of water is retained in the basin, the float being at its lowest position in the float-chamber. On admitting a supply of water to flush the basin, a portion sufficient for the purpose is discharged into the float-chamber, causing the float to rise quickly to the top, lifting the valve and opening the discharge-pipe. The water rising in the central tubular compartment of the float passes into the hollow valve-rod and quickly syphons the water out of the chamber, causing the float to fall and the valve to close the discharge-pipe.

14,587, Window-sashes. J. Kirkbride.

By this invention sash-cords are dispensed with, a coiled spring being used to accelerate the movement of the sashes, and the window may be fixed at any height by the insertion of a peg in one of the series of holes made in the sash, and fastening in the serrations of a rack fixed to the other sash.

14,968, Vertical Sliding Sashes. W. Stead.

This invention relates to improvements in the construction and hanging of vertical sliding sashes for windows, &c., whereby such sashes may be turned on an axis downwards into the room, for the cleaning, painting, glazing, ventilating, &c., without displacing the sash-cords, and to enable each sash to be readily withdrawn from the frame when required.

15,489, Public Sanitary Appliances. G. Jennings.

This invention relates to improvements in the construction of a shield or back of stoneware or other suitable material, designed principally to obviate the soiling of the seats, and to reduce the soiling area. Curved wings are used, and roses, specially placed, distribute the water and remove all soil.

7,987, Observation Compartments, &c. G. C. Farr.

By this invention passages or trunks from each room are led to those from whence the observations are to be made,—the manager's room, for instance,—and mirrors, hung or placed at suitable angles and positions, are used.

Antiquities at Cairo.—The Boolak Museum at Cairo, so familiar to tourists in Egypt, will soon be a thing of the past, as the valuable collection of antiquities contained in the present buildings will be moved to Gheezeh Palace, on the left bank of the Nile, a few hundred yards above Kasr el Nil Bridge. Mr. Grebant, the Director-General of the Department of Antiquities, received instructions a few days ago to commence the removal, which will take some time, as the work will have to be done very carefully.—*Morning Post.*

MEETINGS.

SATURDAY, JANUARY 5.

Association of Public Sanitary Inspectors. — Mr. E. Tidman on "The Drainage By-Laws as Administered under the Metropolis Local Management Acts."

MONDAY, JANUARY 7.

London Institution.—Mr. Harry Furniss on "Art and Artists." 5 p.m.

Victoria Institute.—Rev. F. A. Walker on "Colours in Nature."

Estate Exchange.—Meeting of the Committee. 3 p.m. (Auction Mart).

Clerks of Works' Association (Carpenters' Hall).—Monthly Meeting. 8 p.m.

Leeds and Yorkshire Architectural Society. — Mr. J. Starkie Gardner on "Art Metal-Work." 7.30 p.m.

TUESDAY, JANUARY 8.

Institution of Civil Engineers.—Mr. E. Worthington, B.Sc., on "The Compound Principle applied to Locomotives." 8 p.m.

Society of Biblical Archæology.—Anniversary Meeting. 8 p.m.

Glasgow Architectural Association. — Mr. W. M'G. Petrie on "Greek Ornament."

Manchester Architectural Association.—7.30 p.m.

WEDNESDAY, JANUARY 9.

Civil and Mechanical Engineers' Society.—Mr. A. F. Bruce on "The Cost of Executing some Classes of Engineering Work." 7 p.m.

Birmingham Architectural Association. — Presidential Address by Mr. T. Naden.

THURSDAY, JANUARY 10.

St. Paul's Ecclesiological Society.—Mr. W. Bolton on "The Marshland Churches of Norfolk, Lincolnshire, and Yorkshire." 7.30 p.m.

Institution of Electrical Engineers.—Inaugural address by the President (Sir William Thomson). 8 p.m.

Society of Antiquaries.—8.30 p.m.

Edinburgh Architectural Association.—Mr. J. Maclaren on "The Ancient Ecclesiastical Remains in Scotland." 8 p.m.

FRIDAY, JANUARY 11.

Institution of Civil Engineers (Students' Meeting).—Mr. G. A. Becks on "Refrigeration, and the Artificial Production of Cold." 7.30 p.m.

Miscellanea.

The Subsidences in Cheshire.—The committee appointed at the meeting of the property owners at Northwich to draw up a memorial to Mr. Ritchie, appealing to the Government to grant a Royal Commission to enquire into the enormous damage done to property in the salt district by subsidences, have reported that 1,000,000 tons of salt are annually extracted and exported from Cheshire. The brine is pumped up, and contains about 25 per cent. of salt. As the brine is pumped up the earth subsides, and the damage done is of the most serious nature to house property, roads, highways, gas-pipes, lamps, and buildings. Many acres of land have subsided to such an extent as to be permanently covered with water. Owners are now suffering to a very much greater extent than at any previous time. The grievance is all the greater because the rock salt which forms the foundations of the houses is the sole and exclusive property of the owners, and they are heavily taxed each year, in addition to their private losses, to make good the injury done to the streets. The subsidences are also very serious at Winsford. It is stated that at the latter place over 100 acres of land have sunk, and are now covered with water to a depth of 20 ft. In the town and neighbourhood of Winsford damage has been done, public and private, to the extent of, it is computed, £150,000. The market has sunk down 30 ft., and the market-hall had to be rebuilt seven years ago, while Winsford-bridge, the principal structure over the Weaver, has been twice raised. Some of the house property has been rebuilt three times, and in one part of the town a house has gone down so far that only the top part of the roof is now visible above ground. At Northwich, the Dane-bridge, the principal means of access to the town, has been rebuilt three times during the past eleven years at enormous cost. The level of High-street, Northwich, has been raised 3 ft. during the past year, and it is steadily and surely going down to its former level. The suggestion is that the salt trade should now be taxed to make good the losses it inflicts on the residents of the district.

Emigrants' Information Office. — This quarter's circulars, relating to Canada, the Australasian and South African Colonies, have just been issued; and a poster, giving a summary, is exhibited in every post-office. Mechanics are only in demand in very few localities, as in the western districts of Canada (in the Spring), in Melbourne, especially for those connected with the building trades, and, to a limited extent, in Tasmania. The circulars may be obtained, free of cost, from the office, 31, Broadway, Westminster, S.W.; and ten separate handbooks, one for each colony, and each containing a map, at 1d. each, post-free, or, bound together, at 1s. 6d.

The Timber Trade at Bristol.—During the year 1888, the importation of foreign timber, deals, &c., into the port of Bristol amounted to about 70,000 tons register, or about one-eighth of the total foreign tonnage of the port. Compared with previous returns, the import was below 1883, 1884, and 1885, but higher than in 1886 and 1887. The tonnages were, 1883, 84,055; 1884, 85,668; 1885, 78,942; 1886, 62,660; 1887, 69,943; and in 1888, 70,000. To the trade the year proved one of surprises. January opened with an unprecedented demand by importers for wood goods. Prices at the various ports of shipment were accepted at the same level as the previous year, and the boom soon caused advances in values, and the upward tendency continued through the year. In addition to the rise in f.o.b. values, freights went up by bounds, and finally resulted in an increase over the rates current in 1887 of about 50 per cent. and even as much as 80 per cent. was paid. During the month of December, 1888, greater activity in purchasing had been manifested by timber importers in this country, and also on the continent and in the colonies, than had been known by any living seller, and operations in this direction have advanced for 1889 further than usual by the end of February. The present values all round at ports of shipment abroad are about 20 per cent. higher than at this time last year, and the demand continues strong. Consumers must prepare to adapt themselves for much higher prices for goods purchased in 1889. Bristol has felt the competition of South Wales ports, and the great coaling ports of the Channel enjoy advantages of being able to obtain lower freights than vessels chartered to Bristol, where difficulties present themselves in finding outward cargoes. At Bristol, also, the timber trade suffers from lack of facilities of moving timber. The increased freight, owing to the absence of outward cargoes, has been put at 1s. 6d. per ton, and the additional cost of transit due to want of convenience at 1s. 3d. per ton, making 2s. 9d. per ton, or 6s. 10½d. per standard against Bristol, a circumstance tending much against the development of Bristol as a port of distribution.

Two Useful Reference Books.—"The Insurance Year-Book, 1889" (London: Simpkin, Marshall, & Co.), is a useful and reliable guide for persons effecting insurances, and contains much useful information for business men.——"Sell's Dictionary of the World's Press, and Advertisers' Reference Book for 1889" (London: Henry Sell, 167, Fleet-street) makes its appearance promptly on the first day of the New Year. The first issue of this book was in 1881, when it numbered 400 pages, and now, in the ninth issue, we find it increased to 1,400 pages, and the pages much larger than formerly. This increased space is well filled with all sorts of tabulated matter relating to the charges for advertising in all London and provincial papers. The contents are not only plentiful and varied, but they are so arranged and indexed that any item sought can be found at once. In addition to the business part of the book, there are about 300 pages given up to a variety of articles, all of which relate directly to "press" matters. This "Directory" will be useful in every office.

New English Church, Boulogne-sur-Mer.—On Christmas Day our countrymen resident in Boulogne opened a new English church, dedicated to St. John, in the Rue des Viellards, Boulogne. The architect of the church is Mr. W. Thorold Lowdell, of Great James-street, Bedford-row, London. The heating, on the small ½-in. bore pipe high pressure system, the ventilation, and lighting, as well as the metal work to altar-light and pendants, were executed by Messrs. John Smeaton, Son, & Co., of Great Queen-street, London. The builders were the well-known contractors of Boulogne, Messrs. Lacour Frères. We are asked to mention that subscriptions towards the Building Fund will be thankfully received by the English Chaplain, the Rev. J. H. Fry, 44, Boulevard du Prince Albert, Boulogne.

New Institute at Winshill, Burton-on-Trent.—This institute, which has been built by public subscription, has been lately opened. The buildings occupy a site in Mount-street, and have been erected by Messrs. Lowe & Sons, from designs of Messrs. Osborn & Reading, architects, Birmingham, at a cost of about 1,500*l*. They consist of an entrance hall, a large lecture hall, ante-room, and cloak rooms, reading room, class rooms, caretaker's residence, &c. The materials used are red bricks and stone dressings.

New Cottage Hospital, Saltash.—The new Cottage Hospital and Convalescent Home of St. Barnabas, built at the cost of Mrs. Ley, of Claremont, Saltash, was recently opened. The building occupies an elevated site in Upper Port View-road, commanding extensive views of the Hamoaze and neighbourhood. It is built of red brick, tile-hung, with half-timbered oak-work, and prominent architectural features are the numerous gables which surmount it, and the colonnaded verandahs which project out from the upper storey on the south side. A conspicuous feature is the circular end of the chapel on the east side. On the left of the entrance lobby, which is on the north side within a few paces of the road, is a waiting-room for visitors. Double swing doors open into the hall, where there is a recess in which an ambulance will be kept. On the right, in close proximity, is the operation-room. Adjoining this apartment is the surgery, and in a line with it a bath-room. The men's wards are two in number, and occupying nearly the whole of the south side of the ground-floor. Each ward will accommodate four beds. Between them is the sisters' room, which commands a view of each through small windows. Access is obtainable from the sisters' room to a verandah running along the front of the premises. Up a short flight of stairs on the north side is a spare room, and adjoining it a bedroom for the sisters. Further up still, on a level with the principal landing, is a dining-room with open-timbered roof, for convalescent patients, with a balcony outside facing south. Immediately adjacent is the nurses' day room. On the same landing are the two wards for female patients. The larger of the two is of similar dimensions to the men's ward below, and occupies the south-west corner. The other, which will be provided with only two beds, faces west, and between them is the nurses' bedroom, which has a balcony outside. On the north side, up another short flight of stairs, is the children's ward, with accommodation for four beds. The whole of the east end of the building is occupied by a little chapel, apsidal in form, and with its interior of red Berkshire brick, relieved by stone dressings and labels, the arches over the windows being of rubbed gauged brickwork. The roof is barrel vaulted. Seating accommodation will be provided for twenty-four persons. Near the organ-recess has been hung the dedication picture, depicting St. Barnabas, painted by Mr. E. Fellowes Prynne. Each ward has its own lavatory and other conveniences, and there are no drains running under the building, all the pipes being carried away on the outside and ventilated. The whole building is heated by hot-water pipes, supplied by Bennett Bros., Liverpool, and the wards are fitted with Messrs. Malcolm, Tester, & Co.'s pneumatic bells. There is also a lift communicating with the upper landing. The work has been substantially carried out by Mr. R. W. Rowse, builder, of Mutley, from the designs of Mr. George Fellowes Prynne, architect, London and Plymouth.

The "Castle Line" Cape Steamer "Roslin Castle."—The other day a number of gentlemen interested in the Cape and shipping-trade inspected the alterations lately made on board this steamer. The decorations have been carried out under the superintendence of Mr. G. Duncan, of Effingham-street, London. The prevailing tone of the colouring in the principal saloon, is a soft bluish grey, intermixed with vellum tints and relieved with gold, all of which harmonises with the rich satin wood panelling. Portraits of distinguished men, including Milton, Hogarth, Wren, and Beethoven, painted by what is described as "an everlasting process" on raw sycamore wood, have been introduced round the lining of the skylight. The ladies' boudoir is upholstered with green brocatelle, and is panelled with cedar and sycamore. The new ceiling in the principal smoking-room, with its octagonal panels, is rich in colour. All the state-rooms have been re-decorated.

Rotherham Union Workhouse.—The Board of guardians of this union decided at a recent meeting, to make certain important alterations and additions to the buildings, and it was resolved that Mr. H. L. Tacon, architect, Rotherham, be instructed to prepare plans for the erection of a certain number of infectious or foul wards, also for remodelling and enlarging the whole of the present workhouse buildings, and for carrying out other work that may be considered urgently needed in accordance with the suggestions made by the Local Government Boards inspector.

The Reredos, Gloucester Cathedral.—The *Gloucestershire Chronicle* says:—"We are glad to state that the proposal by the Freemasons to carry out the decoration of the reredos in Gloucester Cathedral, in accordance with the experimental design of Messrs. Clayton & Bell, has been assented to by the Provincial Grand Lodge. The reredos was erected fifteen years ago by the Freemasons of the province, at a cost of 1,300*l*., from designs by the late Sir Gilbert Scott, the statuary having been carved by the late Mr. Redfern. The Cathedral authorities being desirous of decorating the backs of the niches, in order to throw the figures more into relief, and also of gilding part of the tabernacle work, a communication on the subject was laid before the meeting of the Provincial Grand Lodge at Stow-on-the-Wold in May last, and a committee was appointed to ascertain the views of the brethren of the province, and to take such action in the matter as might seem to them desirable. The committee authorised as an experiment the decorating of the backs of two of the niches, and the application of gold to the centre of the structure. This was done under the direction of Mr. Clayton, and though the proposal has led to much newspaper correspondence, the work has been greatly admired, and has received the hearty approval of most of those who attend the cathedral services. We know of two eminent artists,—one of them in the first rank of the profession,—who have inspected the work, and have given it their warmest approval." The Provincial Grand Lodge was not unanimous, however, in giving its approval, an amendment being moved on the ground that "the proposed colouring was foreign to the original design of the reredos, and that no idea of such a decoration was entertained until a few months ago." The amendment was lost by a large majority.

The Powers of Water Companies.—The Clerkenwell Vestry having considered the power of water companies to cut off water from houses which are under the constant supply system if the fittings are in such a state as to occasion waste of water, deemed it advisable, in the interests of public health, that the companies should be deprived of this power. After communicating with the other local authorities of the metropolis, the Vestry requested Captain Penton, M.P., to introduce a Bill into Parliament empowering the companies or the local authorities to carry out the necessary works in cases of waste, and to recover the costs from the owners. The member for Central Finsbury has consented to bring forward a Bill with this object next session. The New River Company has written to the Vestry suggesting that the latter should move the Local Government Board to initiate a constant supply in the remaining portions of the parish.—*Daily News.*

New Theatre at Everton.—A new theatre at Everton, Liverpool, was opened on Christmas Eve. It is described in the *Liverpool Daily Post* as "a very cosy and ornate specimen of theatrical architecture, being replete with all the latest improvements, and offering attractions exceeding in sumptuousness those of much more pretentious buildings." The edifice has a good position at the corner of Breck-road and Breckfield-road South. It is capable of holding upwards of 1,000 persons, and does not contain a single staircase. The pit, which is on a level with the street, is entered from Breck-road, and has an exit into Breckfield-road. The upper floor, which is entirely devoted to the private boxes, dress-circle, balcony, and promenade, is approached from Breckfield-road South. The building has been designed and erected by Mr. W. Redman, of Liverpool, for Mr. Thomas Montgomery, the proprietor.

Newcastle Water Supply.—A meeting of the Newcastle Gas and Water Committee was held on the 28th ult., under the presidency of Alderman Youll. The committee considered the proposed Bill promoted by the Water Company. It was decided to insist that, prior to the Water Company supplying adjacent towns, the minimum of supply reserved to the city, instead of being 200 million gallons, should be 400 million gallons.

Church Clock, Rawtenstall, Lancashire.—The parish church here has just been furnished with a large clock. It has four dials, each 7 ft. 6 in. across, plays the Westminster quarters, and strikes the hours upon a large bell. The pendulum and escapement are important features, the pendulum bob being about 3 cwt., and the escapement a double three-legged gravity one. Messrs. John Smith & Sons, Derby, carried out the work.

A Danger Peculiar to Residence in Flats.—A case was heard last week before Mr. Justice Hawkins which is instructive from several points of view. The defendant took a flat on a term of seven years, and subsequently, finding that the premises were unwholesome, the basement becoming flooded from the sewers, refused to pay his rent. From the legal point of view, it appears that the defendant placed himself in the wrong by not having a definite understanding that the plaintiff guaranteed the premises as healthy, and also in paying his rent between December, 1886, when he first found reason to complain of the premises, and Michaelmas, 1887, when he left them on account of the alleged stench from the refuse water and because of illness in his family. Speaking generally, we believe a tenant may repudiate his contract if his landlord has made a stipulation which he has not kept, or if the bargain has been entered into by reason of a false statement. But if he allows the matter in complaint to go on without taking action, his opportunity is lost, and in this way the defendant in the case in question failed to secure a judgment. But there is another point of even greater interest in the case, and this quite apart from the condition of the actual premises in dispute. It has to do with a risk involved in residence in flats. An ordinary householder has access to every portion of the building in which he lives, and should he suspect a defect, he can ascertain how far his suspicion is correct, and remedy it. But in the case of flats, whilst the actual apartments rented may be free from all risk of evil, the tenant is, in point of health, almost entirely at the mercy of his landlord and of the occupiers of the basement in so far as the main drainage of the premises is concerned. If this latter be wrong, the whole mansion is apt to be filled with foul air from below upwards. A number of cases have come under our notice in which very serious ill-health has been thus induced, and in which tenants have only been too glad to pay what was demanded of them in order to get out of the premises with the least possible delay. Whilst no one should take a residence without skilled advice as to its sanitary state, this precaution is more than ever necessary in the case of flats, where the entire premises, including, above all things, the basement, should be thoroughly overhauled. And if the main drain is not both water-tight and so disconnected from the sewer as to admit of a free current of fresh air through its entire length, we have no hesitation in asserting that the risk of living on the premises is a substantial one, and that it is increased by reason of the multiple occupation which always occurs in the case of flats.—*Lancet.*

The Royal Barracks, Dublin.—In his recent answer in the House of Commons on the sanitary condition of these barracks, Mr. Stanhope is reported to have stated that most of the recommendations of Sir C. Cameron's Commission were carried out, and that nearly all were in course of adoption. He added that a further wholly independent inquiry would be undertaken by Mr. Rogers Field. We have recently pointed out that the most important of the recommendations referred to have not been carried out, and we may now add that the Department of which Mr. Stanhope is the chief has absolutely declined to carry them out, notwithstanding the strong protest of the Dublin Department. Two Commissions have already considered the condition of the Royal Barracks, and their recommendations are in the same direction. Now a "further wholly independent inquiry" is determined on. If Mr. Stanhope wants his department—or the Royal Barracks—"whitewashed," he could not have made a worse selection than Mr. Rogers Field, whose little finger will, we imagine, be much heavier than the loins of the previous Commissioners. Meanwhile, we recommend for general adoption in the army the policy of the colonel of one of Her Majesty's regiments, who positively refused to transfer his regiment—and himself—from the Curragh to the Royal Barracks, on the ground of their insanitary condition.—*Sanitary Record.*

Change of Name.—The Society of Telegraph Engineers and Electricians (founded in 1871, and incorporated in 1883), has now become the Institution of Electrical Engineers. The opening meeting of the session will be held on Thursday next, the 10th inst., when the president, Sir William Thomson, will deliver his inaugural address.

Matheson & Grant's Engineering Trades' Report.—From this report for Jan. 1, 1889, we make the following extracts:—"There has been increased activity during the last six months; the leading makers of bridges and roofs have their factories well filled; but prices have not yet risen much beyond what is due to the higher cost of material and fuel. Although the increased output is largely due to export, the demand at home has also been better—bridge renewals and structural work for theatres, hotels, and market-buildings, being among the leading classes of work now called for. The Forth Bridge will probably be finished this year, while, as another modern wonder of construction, the Eiffel Tower in Paris, 1,000 ft. high—now approaching completion—is a daring achievement, which will be the principal feature of the coming Exhibition. In the United States, bridge-builders are very busy; many bridges of large span are being constructed; and besides the work for new railways, the renewals of bridges too weak for modern traffic are adding to the demand. In Canada also the replacement of weak wooden bridges by iron or steel must soon be attended to, the want of money, rather than any doubt as to the necessity, having hitherto retarded the change. . . . The consumption of Portland cement during the past year has been very great, and although export has lately been restricted by the rise in ocean freights, there is every prospect of an increased demand and higher prices. South America continues to take large quantities of cement for the important public works now in progress; the shipments to the United States have also been in excess of previous years, and seem likely to continue. Public works at home are at present neither numerous nor extensive, and no undertakings of importance have been lately authorised by Parliament. The Manchester Ship Canal is being pushed forward with exceptional vigour, and other improvements of water communication by the canalisation of rivers are receiving much attention from capitalists and engineers. Foreign public works and other forms of industrial enterprise abroad are at present the main sources of profitable employment to the engineering trades of this country. Although in India and the Colonies there are no single undertakings of magnitude going on, the aggregate mileage of railways in progress, or in view, is considerable. In China the railways which are being completed in the north and in Formosa will probaby be followed by extensions. In South America important works are being carried out in the cities of Rio and Buenos Ayres; in the Argentine Provinces the resources of the country are engaged to their fullest capacity on railways, for which material is almost all imported from this country; in Chili, new railways to the value of three millions sterling have been authorised, and although this work has been let to American contractors, most of the plant and material will probably be ordered in this country, as, under the tariff system in the United States, the cost is much higher there than here. The stoppage of the Panama Canal works is the greatest engineering failure that has occurred this century. Apart altogether from intrinsic elements of failure, the undertaking has suffered from incompetent management. The methods of raising money, the secret commissions to financial newspapers and brokers, the payment of interest out of new capital, a wasteful purchase of unsuitable plant, and an insufficient and unskilful use of the plant when purchased, have together proved fatal."

The Kingston Jubilee Fountain.—The Kingston Jubilee Memorial Fountain, which stands in a prominent position in the Fairfield-road, and which was erected by public subscription to commemorate the fiftieth year of the reign of Queen Victoria, has just been handed over to the town by the chairman of the subscribers, the Mayor being the recipient on behalf of the inhabitants. It is a lofty structure, containing two stages above the basement and pedestals, having turrets at the angle of each stage, and surmounted by a cupola. It is the work of Messrs. Doulton & Co., the material being glazed Doulton ware.

Wood Block Flooring in Churches.—Mr. Roger L. Lowe, of Farnworth, writes to say that the floors of Christ Church, Coseley, have been laid with his patent redwood block flooring, and the floors of Melbury Osmond Church with his patent pitchpine wood block flooring. Both churches were referred to in our last issue.

Trade Books, &c.—From Messrs. Charles Churchill & Co., of 21, Cross-street, Finsbury, we have received their new illustrated catalogue of American machinery and tools. It is well illustrated, and very comprehensive in character, extending over 150 quarto pages. Wood-working machinery and tools occupy considerable space. Stanley's and Bailey's patent adjustable bench-planes include some novelties. Both patentees have what they term "filletsters." We presume that this is our carpenters' word "fillister." Mechanical engineers' tools are very fully represented in this useful catalogue. ——Messrs. Ashton & Green (Limited), of Bury-street, St. Mary-axe, have sent us one of their illustrated price-lists for 1889. It forms quite a bulky catalogue of 250 pages, and contains between its covers particulars of every possible kind of builders' requisites, such as stoves and grates of all kinds, chimneypieces, over-mantels, kitchen-ranges, fenders, tile-hearths and jambs, baths, lavatory-fittings, door-furniture, iron balusters, gas-fittings, gutters and pipes, pumps, stable-fittings, water-closets, ventilators, and the thousand-and-one other things required by builders. It is a very handy price-list for office use, but we are sorry to see that it includes that insanitary abomination, the pan-closet. When will this filth-retaining appliance become quite obsolete? It is retained in price-lists and catalogues simply because it is still in demand. Not long ago we heard that one firm alone sold on an average a dozen pan-closets a week, or 600 per annum! Who are the builders who fix these dangerous appliances? Does the Parkes Museum contain any model or drawing clearly showing to inquiring visitors the dangers of the iron "container" of the common pan-closet? We hope so.——Messrs. Wilkins & Co., of 39, High-street, Wapping, have issued a sheet called the "Wire-rope Users' Almanack" for 1889. It contains some very useful and boldly-printed "Observations for Users of Wire Ropes," which should be hung up within sight of all who have the control of lifts and hoists of all kinds. Upon the observance of some of these rules, safety of life and limb, to say nothing of property, largely depends.

Hayward's Pavement Lights.—Messrs. Henry Jarvis & Son, architects, have just completed, through Messrs. E. Lawrance & Sons, builders, an important addition and alteration to the premises belonging to Messrs. Hayward Brothers & Eckstein, Union-street, Borough, manufacturers of Hayward's patent semi-prism lights, iron staircases, &c. The most important feature is the excellent lighted basement, which extends to 150 ft. by 70 ft., giving the firm a good opportunity of displaying their ingenuity with their own specialties, and with the best results. The basement is lighted from narrow pavements from two sides, where, in one, 12 in. projection of lights is allowed, and in the other it is not possible to get more than 15 in., as the Lights actually extend to the curbing. However, there are various vertical stallboard lights introduced which greatly assist those in the pavement. In the latter every advantage has been taken in introducing light, for even in the van entrances to their stables, Hayward's extra strong roadway lights have been put in. The whole basement is now completely stocked with many hundreds of frames of various sizes and different patterns, some six to twelve of each of about 200 sizes, which alone testifies the grasp which this firm holds on this particular speciality, which has fully merited its success, as an inspection of this basement will show. Messrs. Hayward Bros. & Eckstein will be pleased to show their premises to architects and others interested in the subject.

The Consett Sewage Scheme.—On Tuesday last Mr. Thomas Codrington, Mem. Inst. C.E., one of the Local Government Board Inspectors, held a Government inquiry at the Public Buildings, Parliament-street, Consett, with reference to the application made to the Local Government Board by the Consett Local Board for sanction to borrow the sum of 17,000*l.* for the purpose of carrying out extensive works for the disposal of the sewage of the district of Consett. At the conclusion of the inquiry Mr. Codrington said that, having satisfied himself of the absolute necessity for the contemplated scheme, he would, in his report to the Local Government Board, recommend their lordships to sanction the borrowing powers asked for by the Board. The engineer for the construction of the works is Mr. Rober Robinson, C.E., of Darlington.

National Registration of Plumbers.—A meeting in connexion with the National Registration of Plumbers was held in the Council Chamber, Darlington, a few evenings ago, the Mayor in the chair. Amongst those present were Dr. Taylor Manson, Dr. Lawrence, T. Smith (Borough Engineer), T. T. Sedgwick, J.P., G. Gordon Hoskins, F.R.I.B.A., and Mr. Moscrop, architect. The Mayor (Mr. Harding) introduced the subject, and Mr. L. H. Armour, as district secretary, explained the aims and objects of the movement for registration and the promotion of technical education among plumbers. The following were elected to represent Darlington in the District Council for the North of England:—Dr. Manson, Dr. Lawrence, and Mr. Hoskins for the public; Messrs. Smith, Russell, and Lishman for the master plumbers; and Messrs. Pickersgill, Metcalfe, and Armistead for the operatives, the last-named being appointed secretary for Darlington.

Barton Rural Sanitary Authority.—At the fortnightly meeting of this Authority, on the 28th ult., Mr. James Berry presiding, a letter was read from the Town Clerk of Salford, thanking the Board for the prompt means they had taken to prevent the pollution of the Irwell at Clifton. The Clerk was instructed to apply to the Local Government Board for sanction to take up a loan of 1,000*l.* to carry out the main drainage of Flixton village, and Carrington and Church roads, Flixton. The tender for this work has been let to Mr. Wm. Armstrong, of Walkden.

PRICES CURRENT OF MATERIALS.

TIMBER.	£.	s.	d.	£.	s.	d.
Greenheart, B.G.....ton	6	10	0	7	10	0
Teak, E.I.....load	9	0	0	14	0	0
Sequoia, U.S.....foot cube	0	2	3	0	3	0
Ash, Canada.....load	3	10	0	5	0	0
Birch ,, ...	3	10	0	6	0	0
Elm ,, ...	4	0	0	5	0	0
Fir, Dantsic, &c.	2	0	0	4	0	0
Oak ,, ...	2	0	0	4	10	0
Canada	5	10	0	7	0	0
Pine, Canada red	3	5	0	4	0	0
,, yellow	3	10	0	5	10	0
Lath, Dantsic.....fathom	4	10	0	5	10	0
St. Petersburg.....	5	0	0	6	10	0
Wainscot, Riga, &c.....log	2	15	0	4	5	0
,, Odessa, crown.....	2	15	0	3	5	0
Deals, Finland, 2nd and 1st...std.100	9	0	0	10	0	0
,, ,, 4th and 3rd.....	7	0	0	8	10	0
Riga	7	0	0	8	0	0
St. Petersburg, 1st yellow	10	0	0	15	0	0
,, 2nd ,, ...	9	0	0	10	0	0
,, white	8	0	0	10	10	0
Swedish	7	10	0	16	0	0
White Sea	8	10	0	17	0	0
Canada, Pine, 1st	16	0	0	26	10	0
,, ,, 2nd	11	0	0	17	10	0
,, ,, 3rd, &c.	7	10	0	10	10	0
,, Spruce, 1st	9	10	0	10	10	0
,, ,, 3rd and 2nd	7	0	0	8	10	0
New Brunswick, &c.	6	15	0	8	15	0
Battens, all kinds	5	10	0	12	0	0
Flooring Boards, sq., 1 in., prepared, First	0	11	0	0	14	6
Second	0	8	0	0	10	9
Other qualities	0	5	6	0	7	9
Cedar, Cuba.....foot	0	0	3¾	0	0	4½
Honduras, &c.....	0	0	3½	0	0	4½
Australian	0	0	3	0	0	3½
Mahogany, Cuba	0	0	4½	0	0	5½
St. Domingo, cargo average	0	0	4½	0	0	5½
Mexican ,, ...	0	0	4½	0	0	4½
Mahogany, Tobasco, cargo average.	0	0	4½	0	0	5½
Honduras ,, ...	0	0	4½	0	0	5½
Box, Turkey .....ton	5	0	0	12	0	0
Rose, Rio .....ton	12	0	0	19	0	0
Bahia	12	0	0	18	0	0
Satin, St. Domingo .....foot	0	0	6	0	1	0
Porto Rico	0	0	9	0	1	3
Walnut, Italian .....foot	0	0	4½	0	0	6½
METALS.						
IRON—Bar, Welsh, in London...ton	4	17	6	5	0	0
,, ,, at works in Wales ...	4	15	0	5	0	0
,, Staffordshire, in London ...	5	15	0	7	0	0
COPPER—						
British, cake and ingot..... ton	79	0	0	80	0	0
Best selected	79	10	0	80	10	0
Sheets, strong	84	0	0	86	0	0
Chili, bars	77	10	0	78	0	0
YELLOW METAL.....lb.	0	0	7¼	0	0	7½
LEAD—						
Pig, Spanish .....ton	12	15	0	0	0	0
English, common brands	13	0	0	13	2	6
Sheet, English.....	14	10	0	0	0	0
SPELTER—						
Silesian, special .....ton	18	2	6	18	5	0
Ordinary brands.....	18	0	0	18	2	6
TIN—						
Straits.....ton	100	10	0	0	0	0
Australian	100	10	0	0	0	0
English Ingots.....	102	10	0	0	0	0
ZINC—English sheet .....ton	21	0	0	22	0	0
OILS.						
Linseed .....ton	18	10	0	0	0	0
Cocoanut, Cochin	28	0	0	29	0	0
Ceylon	27	0	0	0	0	0
Palm, Lagos	28	10	0	0	0	0
Rapeseed, English pale	32	0	0	0	0	0
,, brown	30	10	0	0	0	0
Cottonseed, refined	24	10	0	0	0	0
Tallow and Oleine	19	0	0	45	0	0
Lubricating, U.S.	5	0	0	6	0	0
,, refined	7	0	0	12	0	0
TAR—Stockholm .....barrel	1	1	6	1	1	9
Archangel	0	12	0	0	12	6

COMPETITIONS, CONTRACTS, & PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

COMPETITIONS.

Nature of Work.	By whom Required.	Premium.	Designs to be delivered.	Page.
Laying-out Hotel and Gardens, Isle of Man...	Manx Syndicate, Lim.	70*l.*, 20*l.*, and 10*l.* ...	Jan. 30th	ii.
Improvements & Extension of Pier, S'thmptn	Southampton Harb'r Bd	100 Guineas.....	Not stated.	xvii.
Pier and Pavilion	Dover Promenade Pier C	100*l.*, 50*l.*, and 25*l.*	Not stated.	xvii.

CONTRACTS.

Nature of Work, or Materials.	By whom required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Kerbing, Tarpaving, &c.	Lewisham Bd. of Wks.	*Official*.....	Jan. 8th	ii.
Removing Dust, &c., Regent's-park District...	Crown Estate Paving Commrs.	do.	Jan. 9th	ii.
Railway Tavern, &c., Grimsby	.....	E. W. Farebrother	Jan. 10th	ii.
New Station Offices, &c., West Worthing.....	L. B. & S. C.Ry.	*Official*.....	Jan. 14th	xvii.
Swimming Baths	Royal Leamington Spa Corporation.....	W. de Normanville	do.	xvii.
Pipe Sewers, Roadmaking, &c.	Owner, Sands End Estate, Fulham.....	C. Belton	Jan. 15th	ii.
Slop Carts	Tottenham Local Board	J. E. Worth	do.	xvii.
Wood Paving Repairs, Sewerage Works, &c.	St. Margaret & St. John (Westminster) Vestry	G. R. W. Wheeler	do.	ii.
Works and Materials	Wandsworth Bd. of Wks	*Official*.....	do.	ii.
Four Corrugated Iron Warehouses	Milford Dock Co.	do.	Jan. 16th	ii.
Sea Defence Works	Clacton-on-Sea Drainage Commrs	T. A. Cressy	Jan. 21st	ii.
Concert Hall at Head of Pier.....	Worthing Pier Co. Ld.	J. Mansergh	do.	xix.
Kerbing and Channelling	Hanwell Local Board	E. J. W. Herbert	do.	xvii.
Formation of New Road, Beckenham.....		A. R. Stenning.....	do.	xvii.
Electric Lighting	Folkestone Local Board	*Official*	Jan. 23rd	xix.
Making-up Roads, &c.....	Felixstowe, &c., Loc. Bd.	I. Oldfield.....	do.	xix.
New Premises, Plymouth	Wilts & Dorset Banking Co. Limited.....	G. Michael Silley.....	Not stated.	xvii.
New Kentish Ragstone Church at Gillingham		J. E. K. and J. P. Cutts	do.	xix.
Wagon Shed, Waterford.....	War Department	*Official*.....	do.	ii.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page.
Draughtsman	Civil Service Com.	Not stated	Jan. 10th	xxvi.
Borough Surveyor	Brighton Town Council	500*l.*	Jan. 16th	xxvi.

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *Noon on Thursdays.*]

BANSTEAD.—For sundry alterations and repairs to house and stabling, &c., and new lodge at Coptbill, for Mr. D. Love. Mr. J. W. Stevens, architect, 21, New Bridge-street, Blackfriars:—

J. T. Peppiatt	£620 0 0

[Accepted without competition.]

BEDFORD.—For new house in Clarendon-road, for the Rev. Dr. Poole. Mr. Henry Young, architect:—

Foster	£604 0 0
Melcombe	595 10 0
Laughton	589 0 0
Haynes	578 0 0
Harrison	567 0 0
Corby & Son.....	558 0 0
White	555 0 0

BEDFORD.—For addition to modern school buildings. Mr. Henry Young, architect:—

Warton & Walker	£656 0 0
Harrison.....	653 0 0
Haynes	640 0 0
Melcombe	629 0 0
Laughton	629 0 0
White	625 0 0
Foster	609 0 0

FOREST GATE.—For the erection of lecture-room, class-room, and church parlour, adjoining Woodgrange Chapel, Romford-road, Forest Gate, Essex. Mr. T. Wallis Chapman, architect. Quantities by Messrs. C. Stanger & Co., 21, Finsbury-pavement, E.C.:—

	Est. No. 1.	Est. No. 2.
Hearle & Son, Cable-street, E. ...	£1,035	... £585
Shurmur, Hackney	990	... 567
Scott, Walthamstow	983	... 558
Morter, Stratford	973	... 554
F. & F. H. Higgs, Loughborough Junction	960	... 535
Watson, Ilford	917	... 522
Holland, Poplar.....	910	... 498

GORING.—For farm-buildings at Goring, for Messrs. Weedon Bros. Mr. J. L. Dodd, architect:—

Smallbone	£210 0 0
Higgs (accepted)	194 0 0

HEREFORD.—For additions to the "City Arms" Hotel. Mr. W. W. Robinson, architect, 10, King-street, Hereford:—

J. Davies	£516 0 0
R. Taylor	514 0 0
T. Lewis.....	511 0 0
W. Cullis	503 0 0
W. Bowers & Co.	502 13 0
Beavan & Hodges	484 0 0
W. P. Lewis & Co (accepted)	470 0 0

[All of Hereford.]

HEREFORD.—For alterations at City Brewery. Mr. W. W. Robinson, architect, Hereford:—

Beavan & Hodges	£245 0 0
W. Bowers & Co.	174 12 0
W. P. Lewis & Co. (accepted)	173 0 0

[All of Hereford.]

LONDON.—For repaving a portion of Clerkenwell-road, for the Clerkenwell Vestry:—

W. H. Wheeler, 11, Queen Victoria-street, E.C. (Accepted, as per schedule).

LEICESTER.—For erection of a large warehouse and offices in Leicester, for Mr. George Oliver. Mr. William Millican, architect, Grey Friars, Leicester:—

		A*
S. Warburton, Miles Platting	£8,896 0	—
J. Parnell, & Son, Rugby	6,733 0	—
J. Shillitoe, & Son, Bury St. Edmunds	6,600 0	—
H. Willcock, Wolverhampton	6,485 0	—
S. & E. Bentley, Leicester	6,435 0	—
J. Riddett, Leicester	6,360 0	—
J. Mason, Leicester	6,339 0	—
G. Taylor, Leicester	6,304 11	—
G. Longden & Son, Sheffield	6,270 0	—
H. Black, Barrow-on-Soar	6,220 0	—
G. Tuffley, Leicester	6,219 0	—
A. Faulks, Loughborough	6,212 0	—
J. Marston, Leicester	6,191 0	—
G. Hewitt, Leicester	6,160 0	—
F. Messom, Nottingham	6,133 0	—
H. Bland, Leicester	6,089 0	£5,599 0
J. Stevens, Leicester	6,087 0	5,831 10
G. Duxbury, Leicester	6,050 0	—
T. & H. Herbert, Leicester	6,049 0	5,434 0
W. Gimson & Son, Leicester	5,990 0	5,352 0
J. T. Hutchinson & Son, Leicester	5,907 0	5,327 0
C. Bass, Leicester	5,895 0	5,220 0
W. Needham, Loughborough	5,680 0	5,026 0
N. Elliott, Leicester	5,655 0	5,270 0
J. O. Jewsbury, Leicester	5,454 10	5,250 0
A. Plant, Leicester	5,099 0	—

* Reduced tenders for deal in lieu of teak floors.

LONDON.—For the New Hospital for Women, Euston-road. Mr. I. M. Brydon, architect. Quantities by Messrs. Franklin & Andrews:—

Lascelles	£16,760 0 0
Holland & Hannen.....	15,368 0 0
Dove Bros.	15,125 0 0
Grover	14,637 0 0
Patrick & Son	14,410 0 0
Brass & Son	14,334 0 0
Chappell	13,978 0 0
Kirk & Randall	13,947 0 0
Nightingale	13,924 0 0
Perry & Co.	13,872 0 0
C. Wall	13,846 0 0
Higgs & Hill (accepted)	13,584 0 0

LONDON.—For the erection of new warehouses upon a site at the north-west corner of Tabernacle and Castle-streets, in the Parish of St. Luke, London, E.C., for Messrs. A. Mordan and E. G. Johnson. Mr. Charles Henman, architect, 64, Cannon-street, London. Quantities prepared by Mr. W. T. Throssel, surveyor, 27, St. Lawrence-road, Brixton:—

		Old Material.
Lascelles & Co.	£6,560	£50
Kimberley.....	6,379	250
Maides & Harper	6,374	60
Morter	6,036	210
Marriage	6,038	70
Jackson & Todd	5,900	120
Smith & Sons	5,895	75
Hoare & Son	5,813	100
Laurance & Sons.....	5,773	150
S. Page	5,755	125
Woodward	5,680	130

LONDON.—For repaving portions of Globe-road and Mile End-road, for the Vestry of Mile End Old Town:—

Mowlem & Co.	£6,400 0 0
Rutty	5,800 9 9
W. Griffiths	5,344 0 0
W. H. Wheeler.....	5,243 0 0
Woodham & Fry (accepted)	5,107 0 0

LONDON.—For sewer and paving, New-road, Rippith-road, and Smeed-road, for the Poplar Board of Works :—

Sewer, New-road.

Rutty	£549	0	0
Bell	541	0	0
Trickett	528	0	0
Porter	503	0	0
J. Jackson (accepted)	475	0	0

Paving and Making-up New-road.

L. Griffiths	£2,110	0	0
Trickett	1,972	0	0
Rutty	1,790	0	0
Porter	1,720	0	0
W. Griffiths	1,710	0	0
Bell	1,665	0	0
W. H. Wheeler	1,547	0	0*
Knight	1,119	0	0

*Accepted.

Rippith-road.

	A.	B.
Glenny	£465	£455
Trickett	458	—
Knight	441	—
Victoria Stone Co.	407	—
Rutty	415	360
W. H. Wheeler (accepted)	395	349

A. Victoria stone. B. Imperial stone.

Smeed-road.

	A.	B.
Knight	£292	—
Trickett	141	—
Glenny	133	£130
W. H. Wheeler	128	114
Victoria Stone Co.	113	—
Rutty	125	109*

A. Victoria stone. B. Imperial stone.
* Accepted.

LONDON.—For rebuilding No. 1A, Campden-street, Notting Hill, for Mr. R. Maunders, of Barnes. Mr. Alfred J. Bean, architect, Acton :—

J. Mears, South Kensington	£385	0	0
H. Heywood, Hammersmith	385	0	0
H. King, Kensington, W.	375	10	0
G. Aldred, Kew (too late)	375	0	0
F. Collin, Barnes (accepted)	355	0	0

LONDON.—For the erection of new business premises, No. 9, Newman-street, Oxford-street, W., for Messrs. F. Higgings & Sons. Mr. W. W. Gwyther, architect, 43, Lincoln's-inn-fields, W.C. Quantities by Mr. J. W. Stevens :—

Cocks	£4,462	0	0
Puzey & Lumley	3,997	10	0
Ashby & Horner	3,896	0	0
Mark Manley	3,852	0	0
Mark Patrick	3,835	0	0
Oldrey	3,620	0	0
Brass (accepted)	3,575	0	0

LONDON.—For new galleries and other works, Seamen's Chapel, Commercial-road, E, for the London Wesleyan Mission. Mr. F. Boreham, architect :—

Knight & Sons	£1,320	0	0
Howlett	1,250	0	0
Gregar	1,194	0	0
Cleaver	1,180	0	0
Allen & Sons	1,098	0	0
Anley	1,094	0	0
J. Holloway	1,085	0	0
Chessum	990	0	0
Battley (accepted)	979	0	0

LONDON.—For alterations to entrances St. John's-square Wesleyan Chapel. Mr. F. Boreham, architect :—

Taylor	£128	0	0
Long	98	0	0
Anley	98	0	0

LONDON.—For new stables, Barnsbury, for Mr. C. Ingamells. Mr. F. Boreham, architect :—

Bradford	£190	0	0
Williams & Son	163	0	0
T. Cole	155	0	0
J. Anley (accepted)	144	0	0

LONDON.—For the erection of block of dwellings and shops in the Pentonville-road, N., for Mr. J. G. Walls. Mr. W. Youlle, 37, Great James-street, Bedford-row, architect. Quantities supplied by Mr. T. Marcus Houghton, 10, John street, Adelphi, W.C. :—

Puzey & Lumley	£1,710	0	0
Hunt, Clerkenwell	1,685	0	0

MOULSFORD.—For new farm-buildings at Moulsford, for Mr. H. B. Morrell. Mr. J. L. Dodd, architect, Reading :—

Brasher	£860	0	0
Higgs	820	0	0
Smallbone (accepted)	777	10	0

NORTHAMPTON.—For the erection of the new Church of St. Paul. Mr. M. H. Holding, architect, Northampton :—

Beardsmore	£6,120	0	0
Roberts & Son	5,989	0	0
Reynolds & Son	5,750	0	0
Cosford	5,623	13	0
Green Bros.	4,938	0	0
Martin	4,844	0	0
Wingrove (accepted)	4,795	0	0

NOTTINGHAM.—For the erection of a pair of semi-detached villa residences, situate on the Gregory Boulevard, the Forest, Nottingham. Mr. Gilbert S. Doughty, C.E., architect :—

Wheatley & Maule	£2,122	0	0
Bell & Son	2,090	0	0
A. B. Clarke	1,938	0	0
J. Cooper	1,923	0	0
E. Hind	1,907	0	0
J. J. Adams	1,900	0	0
T. Cuthbert	1,900	0	0
J. Turton	1,900	0	0
Evans & Woodcock	1,885	0	0
J. F. Price	1,830	0	0
J. Shaw	1,779	0	0
Barlow & Whittaker	1,762	0	0
Gilbert & Gabbitass (accepted)	1,760	0	0

[All of Nottingham.]

STRATFORD, E.—For granite and wood-paving works, at Messrs. Chippendale & Co.'s new factory :—

W. H. Wheeler, 11, Queen Victoria-street, E.C. (accepted)	£815	0	0

WATFORD.—For additional sheds and other works, at Croxley Mills, for Messrs. J. Dickinson & Co., Limited. Mr. Geo. Hubbard, architect :—

The Co-operative Builders (Limited)*	£4,079	0	0

* Accepted. [No competition.]

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Leopold Institute, &c., Slough.—Messrs. Ford & Kirrage, of Upper Holloway, write saying that they sent in a tender, amounting to £5,500, for this work, but that it was omitted from the list which we published in the *Builder* for Dec. 22. We printed the list as we received it.

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R. J. B.—C. D. W. (we have already printed a letter on the subject, December 22, 1888).—J. B. (thanks).—T. V. (address noted).—J. H. S.—E. H. B.—D. & Co.

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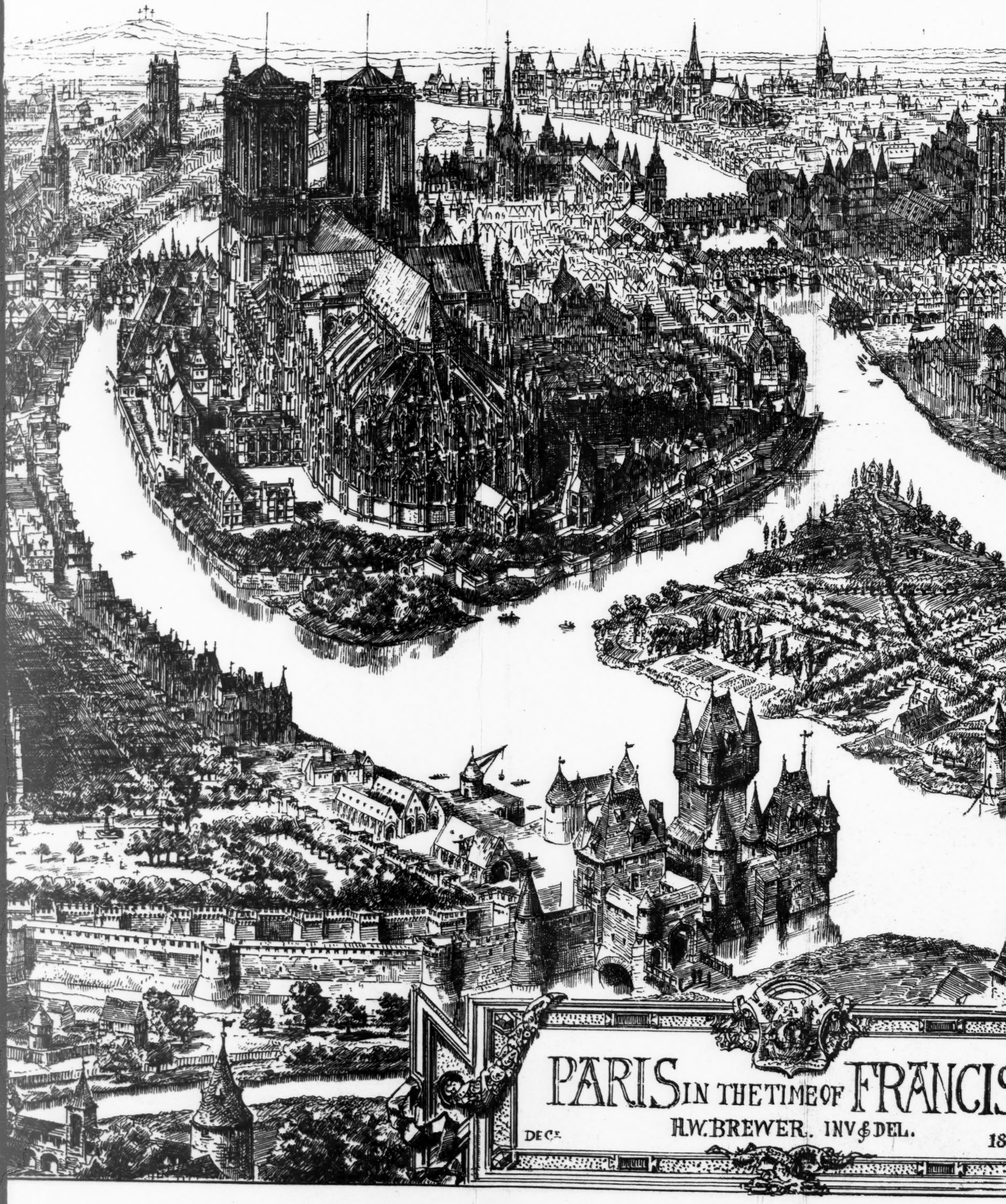
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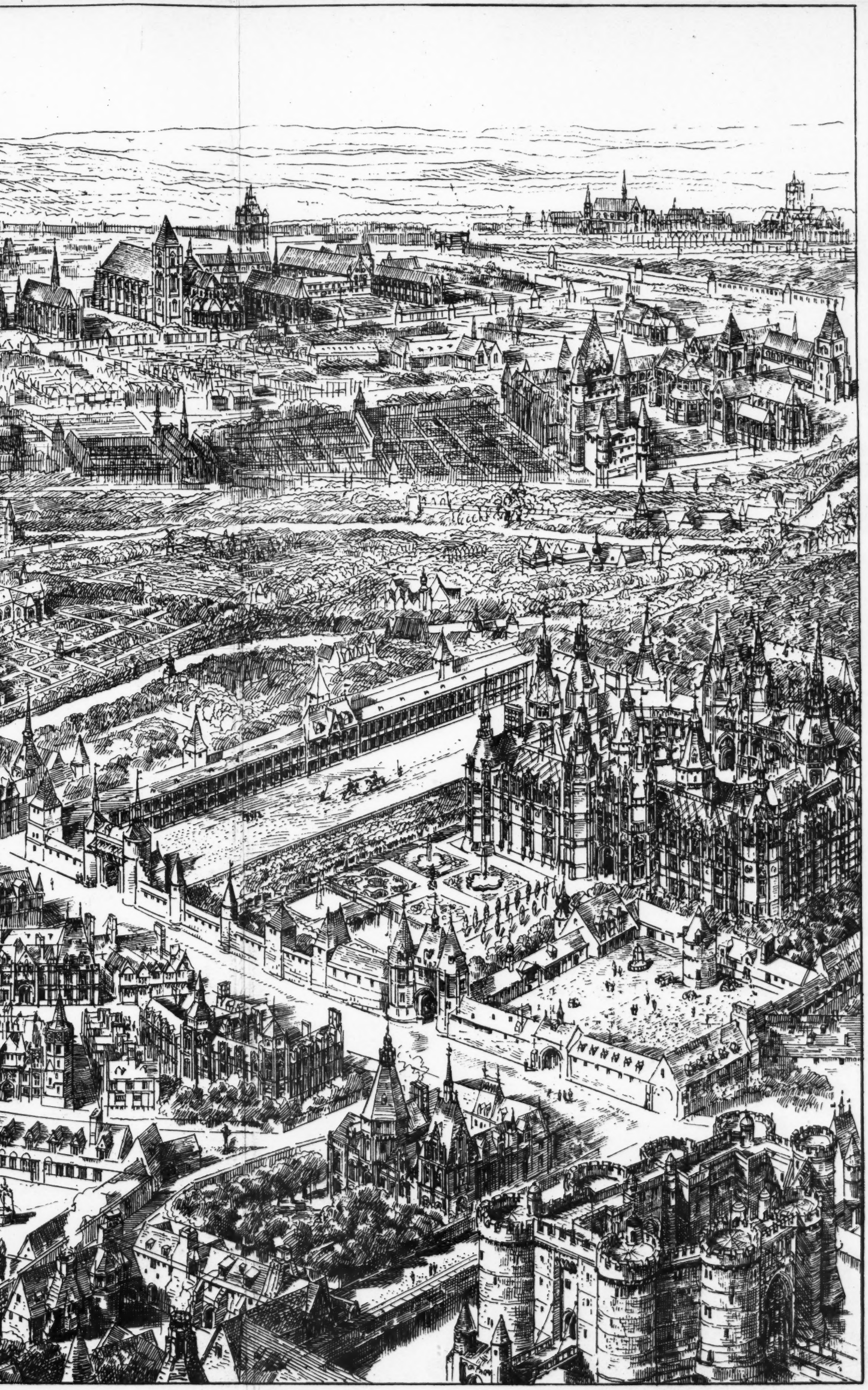

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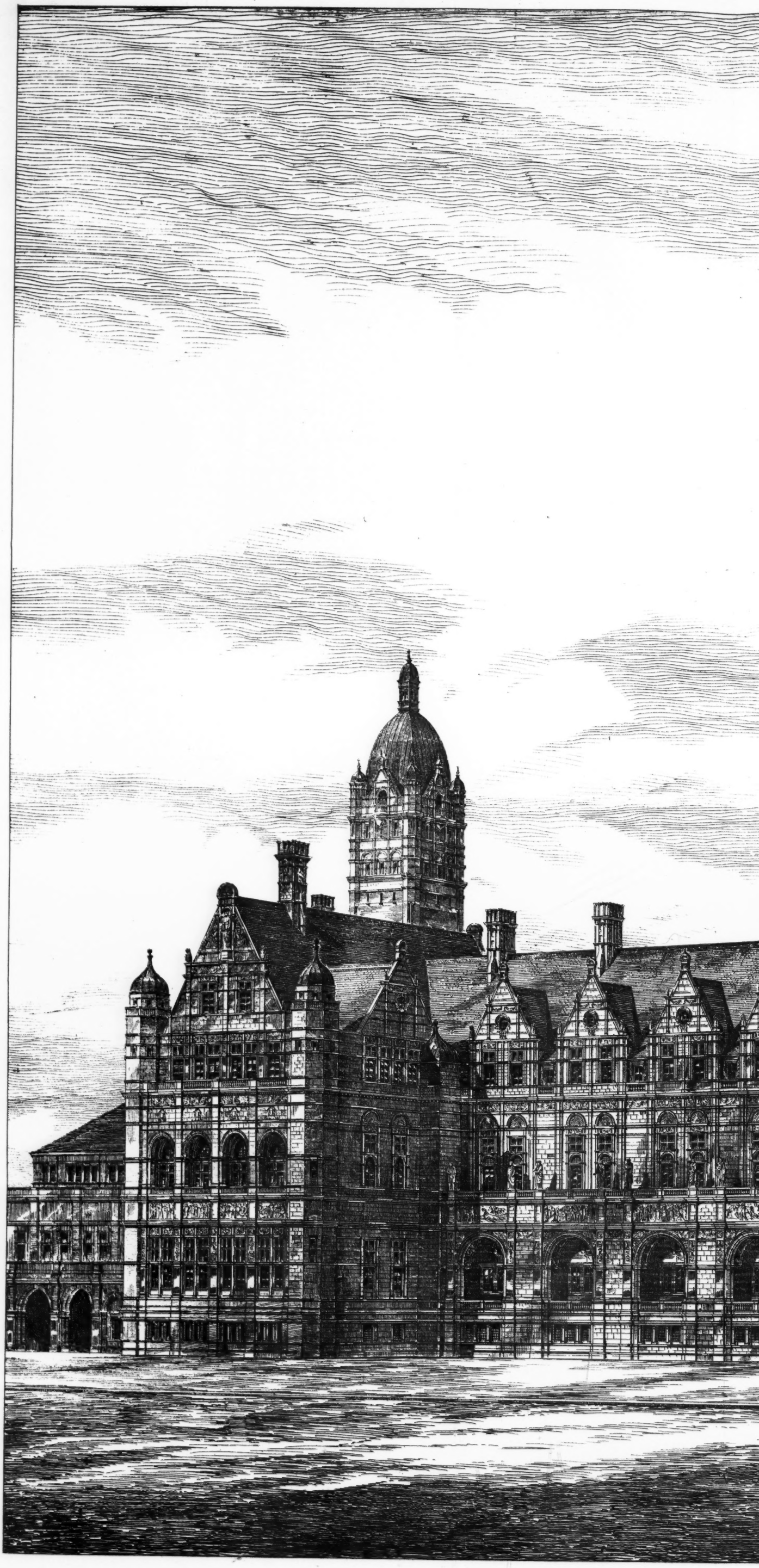

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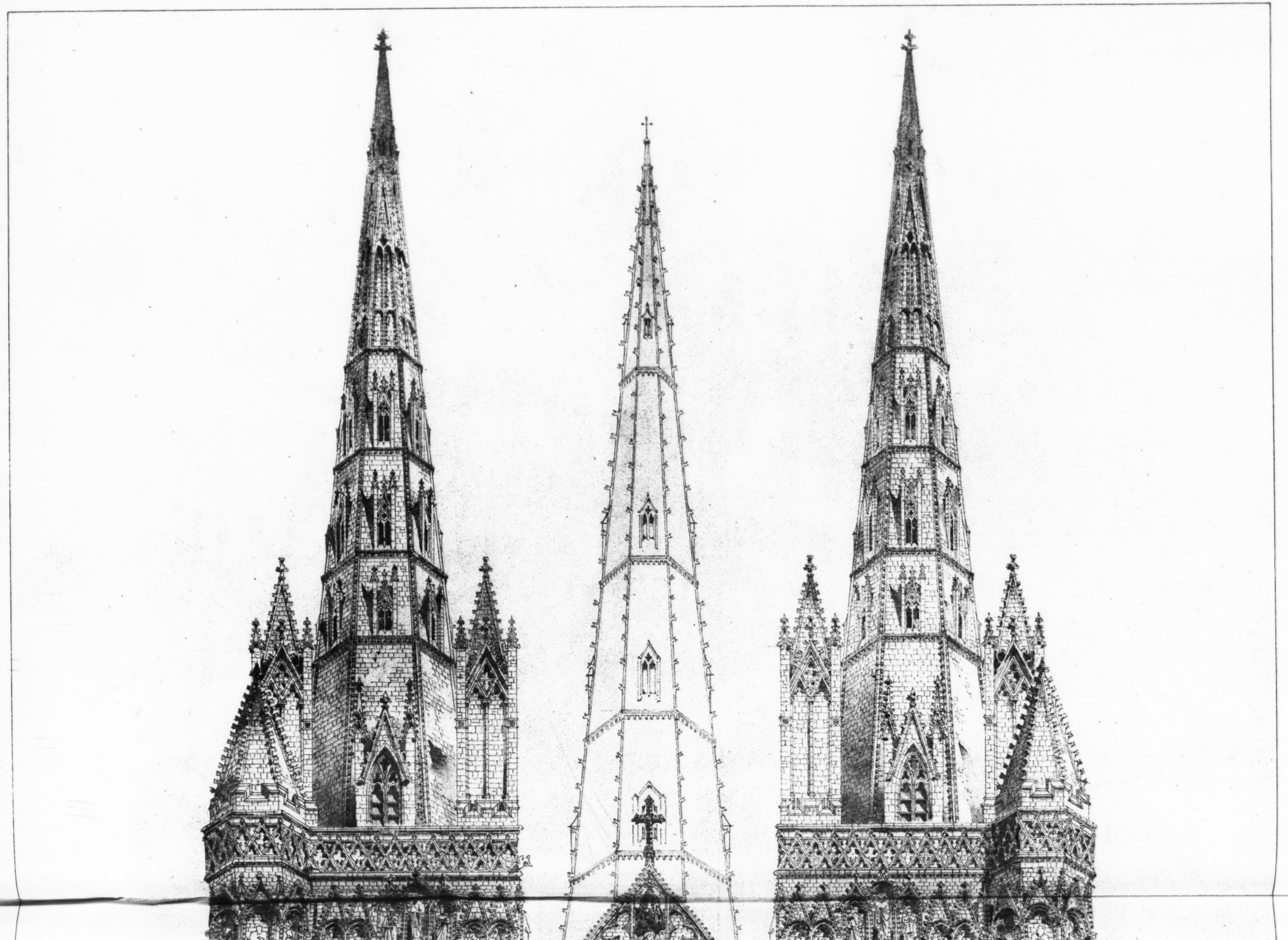

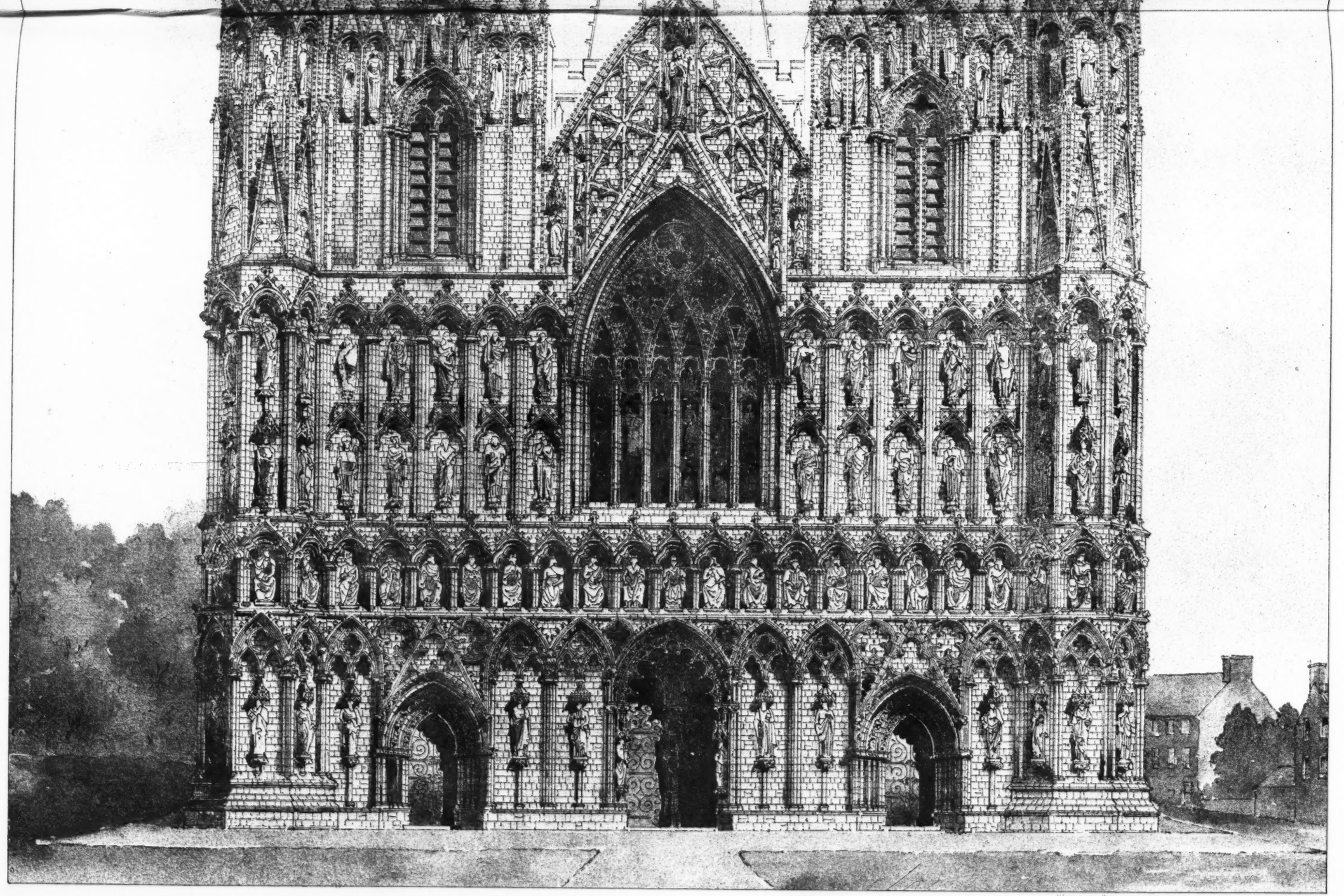

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